CALIFORNIA
OIL WORLD
and Petroleum Industry
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AUG 5

Victory must continue to be our No. 1 objective—as early a Victory as possible—but in any event a Victory so decisive, followed by a peace so fair and just that its cost in lives, materiel, and effort shall not have been in vain.
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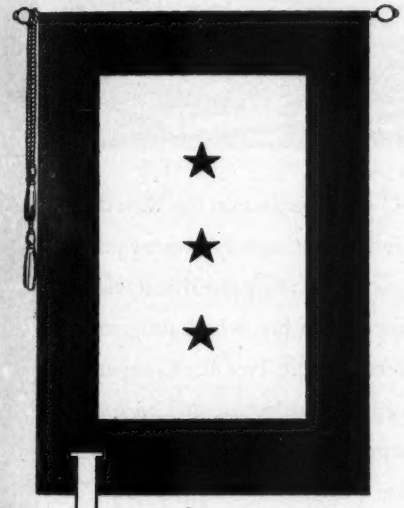

In the service of our country

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July 27, 1942

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Urgency Growing for Increase in California Drilling Operations

A sharp upturn in drilling activity in California within the next two months is confidently predicted by observers who have been studying the crude oil production and demand situation on the Pacific Coast. However, it is well here to correct certain erroneous statements which have appeared in the daily press. Recently there have appeared published accounts of a plan to drill more than 2600 oil wells in California to increase as rapidly as possible the supply of "heavy crude oil."

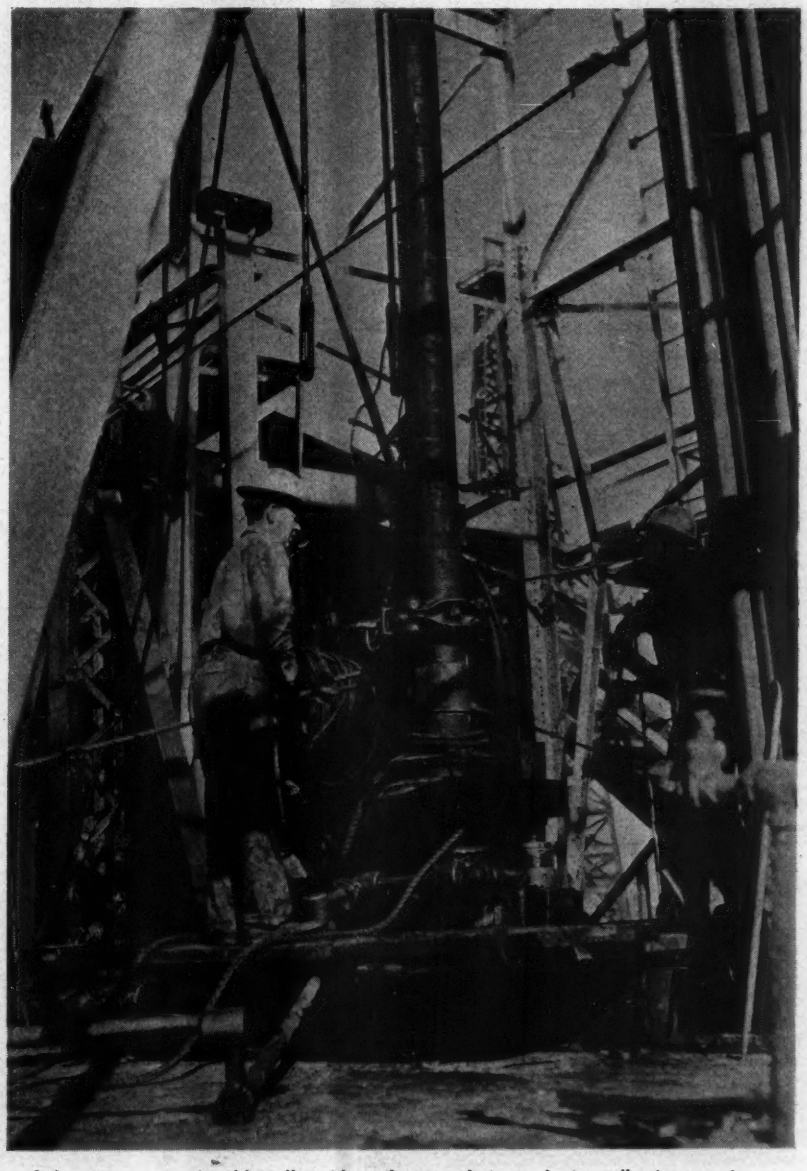
The source of this report has been traced to a garbled news story which misapprehended statements made by Lot Bowen at a meeting in Bakersfield. Those who have read the "Heavy Crude Oil Survey" recently completed by the Office of Petroleum Coordinator for District Five will understand that while the need for launching an extensive drilling program in the heavy crude oil fields is urgent, the strictly rationed supply of steel makes a program of 2600 drillers very remote.

In this connection it is interesting to note that some operators in Wilmington field, for instance, have had exceptions to the 40-acre spacing rule approved when they indicated that salvaged casing would be used. The salvaging of casing from old wells which have ceased to produce has been deterred somewhat by restrictions imposed through the OPC's opposition to abandonment of wells which might possibly be continued on production. However, in some fields, such as Huntington Beach, it has been found that much of the casing in old producers can be reclaimed without endangering the productive efficiency.

The California Heavy Crude Oil Committee was appointed a sub-committee of the Crude Oil Advisory Committees for District Five at the organization meeting of the latter committee July 9.

The California Heavy Crude Oil Committee, of which W. H. Morgan of the R. R. Bush Oil Co. is chairman, is composed of men elected by the California oil industry to prepare and submit data to the Office of Price Administration concerning costs of producing crude oil in California, while the Crude Oil Advisory Committee for District Five was appointed by Leon Henderson, administrator of the O.P.A. under section 2A of the Emergency Price Control Act of 1942, which provides for industry advisory committees on price matters.

The district advisory committee consists of 14 men, 12 of whom comprise the Production Committee for District Five, appointed following the establishment of the Office of Petroleum Coordinator. These men are:



Salvaging casing in old wells without hurting their producing effectiveness is a valuable new art.

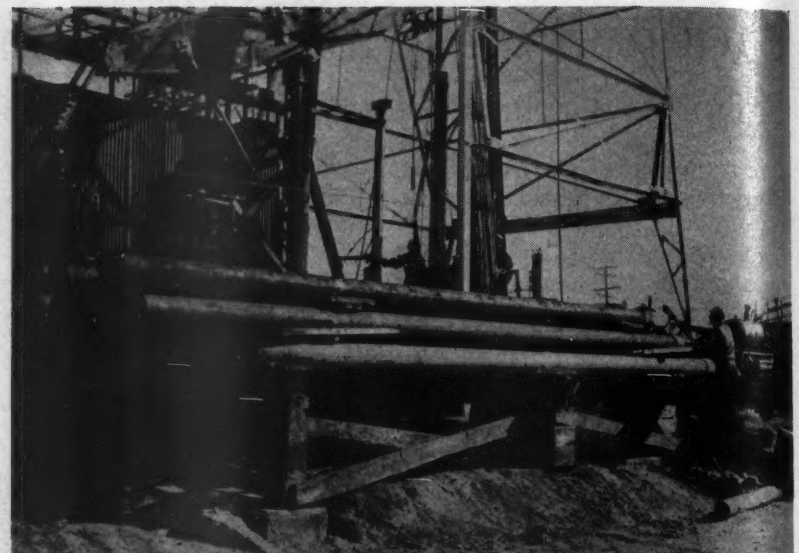
L. L. Aubert, F. S. Bryant, R. E. Collom, L A Cranson, E F. Davis, Wm. Keck, Jr., A. D. Mitchell, E. E. Pyles, L. P St. Clair, Lawrence Vander Leck, W. C. Whaley and Lloyd Williamson. The two additional members of the Advisory Committee are Wm. F. Humphrey, chairman of the General Committee for District Five and Richard Fenton, executive vice president of the California Stripper Well Association.

A California oil production quota of 767,200 barrels per day for August has been established by Coordinator Ickes, according to a telegram received by the Production Committee for District No. 5, July 21.

The committee estimates that 41,000 barrels daily of this quota will be reserved for natural gasoline and condensate production, leaving a net crude oil allocation of 726,200 barrels per day.

In July, total allocation was 739,500 barrels per day and net crude allocation was 699,400 barrels per day.

At the organization meeting of the Advisory Committee, called by J. Norman Westsmith, local petroleum industry division representative of the OPA, the committee elected E. E. Pyles chairman and L. L. Aubert and F. S. Bryant vice chairman, Martin Weil was elected secretary, in which position he also serves the Production Committee.

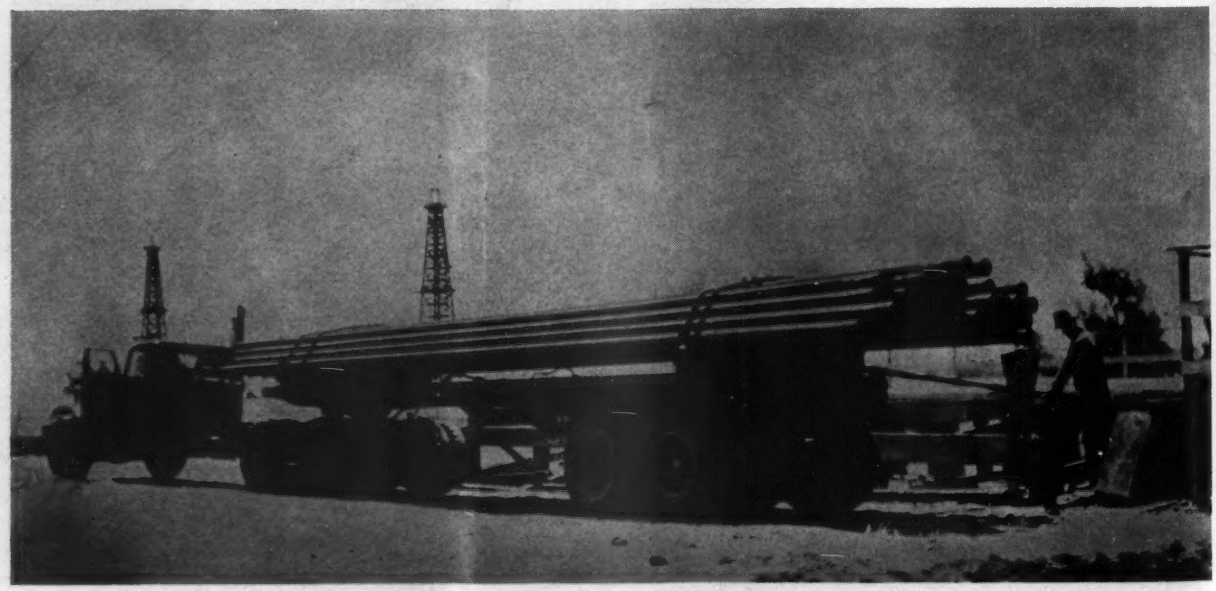


Thousands of feet of old casing is being reclaimed.

Naming of the California Heavy Crude Oil Committee as a sub-committee of the Advisory Committee was suggested by Mr. Henderson in a letter to Mr. Morgan, in order the OPA administrator said: "that its status under the Emergency Price Control Act of 1942 may be clear."

Allen Says California Crude Output Lagging

The Pacific Coast may provide an outlet for New Mexico and West Texas crude oil in the next six months, Robert E. Allen, assistant deputy petroleum coordinator, told a Senate subcommittee on July 17. Allen said the West Coast demand had increased by leaps and bounds from 623,000 barrels daily in April to an estimated 769,000 barrels daily for August. He said that California production was falling short of the current demand by about 20,000 barrels a day because of requirements of the Navy and other sources. Dis-



If your well offers a high oil to steel ratio you will probably have little trouble getting new casing. This is for a heavy crude well.

tances from New Mexico oil fields to Western centers, he said, were no greater than those to the East where oil from the Middle West has been shipped. Allen was one of several government men who participated in a round table discussion of petroleum problems, held by the mineral resources subcommittee of the Senate Public Lands Committee.

E. DeGolyer, petroleum geologist now serving as an assistant deputy coordinator, told the committee that it is possible the government will be forced to assist in the exploration for new oil pools to keep up American reserves. He said that the present incentive for new oil discoveries is so inadequate and the cost of research so high that it may be necessary for the government to take the initiative and defray at least part of the cost. Both Allen and DeGolyer expressed the belief that present crude prices are inadequate to provide the incentive for exploration to find the needed reserves. **Rumors are heard from Washington to the effect that Conservation Order M-68 will be amended to permit drilling in California on less than the 40-acre spacing now in force.**

●

Producers and refiners recently were given an insight into the important role they have in our country's war program. Wright Gary, who is handling the refinery war materials production schedule, held a number of conferences with California oil men last week. Butadiene and toluol production in the state were discussed. As there is a heavy veil of secrecy over details of the synthetic rubber program, it may be interesting to survey the general picture as presented recently by Donald Nelson as follows:

WAR PRODUCTION BOARD

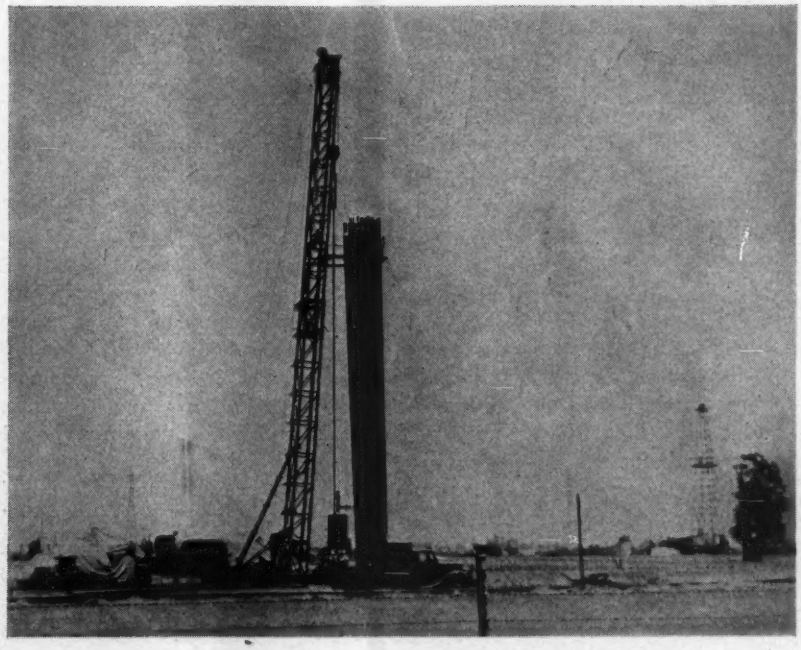
Statement by Donald M. Nelson, Chairman of the War Production Board, before a sub-committee of the Senate Committee on Agriculture; Tuesday morning, July 14, 1942.

Last week when I appeared before your Subcommittee for the first time, in connection with another matter, I asked for the privilege of coming before you again to report upon the Government's war-time synthetic rubber program. I emphasized the words "war-time program," because the extent to which critical materials should be diverted from other vital war needs both limits the size and defines the character of the synthetic rubber program.

This Subcommittee has given extended attention and contributed valuable information regarding the relative merits of various processes and materials for making synthetic rubber. That has been an important contribution. Your considerations have stimulated wide public interest in the subject. I know that you will agree with me that from here on out we must all be alert to avoid the public misconception that discovery or improvement of a process means abundance of rubber for civilian needs, or that the Government's synthetic rubber program is halted in its tracks or palsied by indecision in search of the perfect process. It is the scarcity of critical materials for plant construction, and not the lack of available processes for manufacture, that limits the Government's synthetic rubber production program to 800,000 tons. The construction phase of the Government's program is moving forward with great speed. The military necessity for rubber to keep our mobile forces going requires that the present program be pushed forward to completion of construction and full scale production in keeping with present plans and schedules, and room only for any possible adjustment that would advance construction and production schedules as presently adopted.

With your permission, in a few minutes I shall ask Mr. Madigan, who is in direct charge of the plant construction program, to tell you in detail just where we stand. Later, if any broad policy questions remain to be answered, I shall try to answer them when Mr. Madigan has finished.

At the time of my appearance last week you also agreed to hear my views regarding S.2600, a Bill already reported out by your full Committee to the Senate. That Bill would create another agency to act independently of existing agencies, to be endowed with power to divert critical materials from other vital war needs to the construction of facilities to provide additional supplies of synthetic rubber, produced from



A great steel saver is the portable well servicing rig.

alcohol as the basic material, sufficient to meet the civilian needs of the United States. To that Bill I expressed my opposition before your Subcommittee last week and you were kind enough to afford me this opportunity to present my views.

Since my appointment as Chairman of the War Production Board on January 16th of this year, I have carried responsibility for the entire war production and procurement program. The provisions of synthetic rubber to replace our lost supplies of crude is one of the most important parts of that program. I accept full responsibility for what has been done in that program. Soon after I became Chairman, the conquests by the Japs in the Far East cut off 97% of our former supplies of crude rubber. It was necessary to act quickly and decisively to provide substitute supplies and to conserve our precious existing stocks. The sheer force of need for speedy and decisive action may later evidence some mistakes when weighed in calm reflection. Perhaps if we had to do the job again, we would make changes. But the program had to be speeded, the decisions had to be made immediately, and it is impertive still that the program move on at utmost speed.

Last week I expressed to you my conviction, in reference to S. 2600, that the power to synchronize the flow of raw materials in order properly to balance our all-out war production program should not be taken out of the hands of the President or the central agency to whom the President has delegated the administration of that power.

The tremendous size and complexity of our all-out war production effort requires proper balance and careful adjustment of our military, foreign and domestic needs. This calendar year our factories will turn out war goods to a value of approximately 45 billion dollars. Next year that figure will increase to 70 or 75 billions. Such total national effort requires central control and expediting of the flow of material through the industrial process by someone who can see the picture as a whole. Since my appearance before you last week, the War Production Board has been realigned to make control of the flow of materials the central effort. The realignment will bring the Board into closer touch with military and international requirements by creating closer ties with the Combined Production and Resources Board recently established by the President and Prime Minister Churchill and through the creation of a War Production General Staff made up of military and civilian production staffs. The Armed Services will, of course, continue to determine the kind and quantities of arms and munitions they need, and when and where they want them. Having done that, the development of a comprehensive program in accordance with strategy, and the direction of our national economy and the flow of materials to that end, is a task that centers in the War Production Board.

Since my last appearance before your Sub-committee the newly-created Combined Production and Resources Board has initiated a joint inquiry with the British representative into the requirements of the major rubber consuming items of war equipment. Also since my appearance before your Subcommittee last week, the War Production Board at my request again reviewed the status and progress of the synthetic rubber program. Detailed reports of construction progress and estimated production were received. The present balance of processes and raw materials, with respect to petroleum and alcohol sources, was weighed. The question for consideration was whether the program for the production of Buna S, which comprises 700,000 tons of the total program of 800,000 tons, should proceed upon the presently authorized proportions of alcohol, petroleum and benzene. It was agreed that the Buna S program should proceed upon its present basis, including 200,000 tons from alcohol, 20,000 tons from benzene, and the balance from petroleum.

The present status of the synthetic rubber program may be summarized as follows: (see table)

ESTIMATES OF RUBBER PRODUCTION

(Long Tons)

	1942			1942		
	Actual 1st Half	Objective 2nd Half	Total	1st Half	2nd Half	Total
Buna S	1,000	7,000	8,000	54,600	226,400	281,000
Butyl		300	300	1,700	19,300	21,000
Neoprene	3,600	8,400	12,000	9,500	11,500	21,000
Buna N and Thiokol	4,800	7,200	12,000	7,500	7,500	15,000
TOTALS	9,400	22,900	32,300	73,300	264,700	338,000

That decision of the Board to proceed under present plans with all possible speed, does not exclude encouragement of an assistance to continue technological developments still ahead in the entire field of synthetic rubber. I am particularly interested in and I have given all the encouragement I can to the development of the butylene-glycol process now under test by the Northern Research Laboratories at Peoria, Illinois. I have followed very closely and have been in touch with the parties interested in the development of the so-called Polish process which is being sponsored by Publiker Corporation. The Publiker Corporation was granted an A-1b priority rating on March 31, which was moved up to an A-1-a rating on June 27 for materials necessary to build a 2000 pound per day pilot plant for the continued testing and development of that process.

Other instances of prospective favorable technological developments have been brought to my attention and are being assisted. Rubber requirements are under continual careful review in relation to the available supply of scarce materials for construction. If it should later be de-

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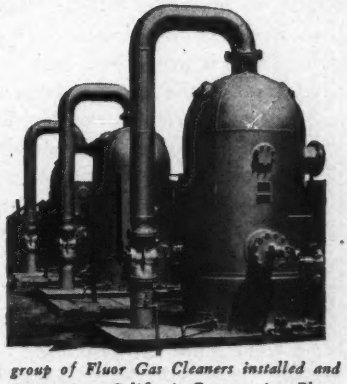

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termined that the present program must be expanded to meet requirements, then ensuing technological developments will be most carefully weighed and will share a part in the program if shown to be merited.

The present 800,000 ton synthetic rubber program was determined upon after most searching review of rubber requirements for military and essential civilian needs and after fullest consideration of the extent to which critical materials required for that program could be taken from other essential segments of war production. The program reflects the joint opinion of the Board members, representing both the armed services and civilian agencies carrying responsibility in the war program, as to the minimum essential military and civilian requirements and the maximum allowable interference with the war production program as a whole.

As I read the legislation proposed by this Subcommittee (S. 2600), the independent Rubber Supply Agency to be created under that Bill would be charged with the duty of constructing facilities to provide additional supplies of synthetic rubber sufficient to meet the military and civilian needs of the United States. In my opinion it would be a rash act at this stage of the war production program for Congress to require the diversion of the great amount of critical materials necessary to accomplish that objective, at whatever cost of interference with the production of vital military supplies.

The present 800,000 ton synthetic rubber program calls for 122,000 tons of steel plate, 210,000 tons of other steel, over 7,000 tons of copper, bronze and brass, and about 170,000 horsepower of compressor capacity.

I have already said that the gigantic proportions of the war production program have made it necessary to channelize nearly all materials to their most essential uses. Steel plate, copper, and air compressors are all highly critical items and all are required in substantial quantities for the production of synthetic rubber. The pressure upon steel plate and copper is so immense as practically to limit the boundaries of the war production program. As you know, steel plate is required for the production of ships, tanks, high octane gasoline plants, munitions plants, and other urgently needed military items. The requirements of 1942 when the shortage of steel ber program are reflected most importantly in the last two quarters of 1942 when the shortage of steel will be most severe. The taking of steel plates for synthetic rubber therefore means taking them away from ships, tanks, and the essential expansion of other production facilities. The demand for steel for the naval and maritime shipbuilding programs have grown to such an extent that, if we are to keep airplanes, tanks, guns and troops moving to the battle grounds, every non-essential use of steeel must be rigidly curtailed.

Every pound of copper too must be conserved. The consumption of ammunition in today's warfare is staggering, and copper is an essential ingredient. Present total military requirements of copper for 1942 will be more than twice as great as total consumption during the normal peacetime period. To this must be added requirements for essential plant facilities, communication, transportation, and power and light. Every pound of copper taken for any other purpose means fewer shells and less ammunition for our fighting forces.

Perhaps the most critical shortage which affects the synthetic rubber program is air compressors. Even the present synthetic rubber program will take 37 per cent of the total compressor production for the last quarter of 1942 and 22 per cent of the total productions for the first quarter of 1943. Production of explosives depends upon compressors, to manufacture the required amounts of ammonia, toluene, and other primary components. Compressors also are necessary for the production of aviation gas and of ships, as well as many other critical military items. Present manufacturers of compressors are booked up for their entire production through March of 1943, and yet not all of the orders for the present synthetic rubber program are placed. Any further expansion will mean that schedules for facilities to manufacture ammonia, explosives or aviation gas or some other essential items will have to be advanced or that these programs will have to be curtailed.

Through the latter part of 1941 and so far in 1942, there has been increasing evidence from all sides that materials are in fact the key to our productive efforts. Shortages have occurred further and further back in the process of fabrication. The alternative is a simple, but fateful, one. We can get our war materials in greater quantities for the immediate use of our fighting forces from our existing facilities, or we can divert materials from immediate war production to enlarge our plant capacity for the realization of still greater supplies at a later date.

In June of this year, after a critical appraisal of the many strong competing demands upon the materials at our disposal, we selected the most urgent needs to be fulfilled and arbitrarily scaled down expansion programs to a level of reasonable achievement within the time at our disposal. Although many expansion programs were cut substantially, the synthetic rubber program has been left unchanged.

The study of war requirements and material supplies, and the balancing of our total production program so that critically short materials will flow into the most essential needs, as dictated by the highest military strategy, is a continuous process of the War Production Board and of the Combined Production and Resources Board. Because of the shortage of many materials, the decisions to be made are not the easy ones of what supplies we shall increase, but of balancing the need for increasing one at the expense of curtailing another. In other words, where must we shorten our lines?

In this connection it is apparent to me that a disservice has been rendered the American public in the form of

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plausible stories of the quick availability of substantial quantities of synthetic rubber. True, we were a nation of abundant resources and it became our habit of mind to think that we needed only the process to get the end product, and that any amount and quality of material would be readily available to produce the result. But today materials are definitely the limiting factor of our productive effort. It is not the simple possession of a formula or a process which guarantees us availability of synthetic rubber or other critical items.

My impression from having reviewed many public statements made regarding the present rubber situation, in Congress, in public print, and over the radio, may be summed up in the expression that since we know how to make synthetic rubber we should therefore have abundant supplies immediately. It is said that since we can make rubber from alcohol therefore we should produce a million and a half tons of rubber. It is said that since a small amount of crude rubber can be used for recapping tires, therefore we should keep thirty million automobiles going. I know you gentlemen of the Committee are better informed. But this basic misconception has been extensively circulated, and since this Committee has given conspicuous attention to the synthetic rubber program and has had deep influence upon the course of public thought, I appeal to you to work with me to clarify the basic issues that are involved.

S. 2600

I have already given you the substantial grounds that lead me to recommend against the enactment of that Bill. You have indicated that you would welcome an expression of my views regarding S. 2600, the Bill to create an independent Rubber Supply Agency with power to divert critical materials to the construction of facilities for the production of additional synthetic rubber from alcohol as the base material in an amount sufficient to fulfill all military and civilian needs.

Such enormous quantities of war materials are required in the war program that we are in grave danger of running short of material. The key to production at this stage of the program, in my judgment, is the centralized control of the flow of materials. Congress has vested that power in the President and he in turn has delegated it to me as Chairman of the War Production Board. It is my conviction that any dispersion of that power between separate agencies would tend to obstruct the progress of the war effort.

That Bill further would impose a legislative obligation to supply rubber for non-essential civilian needs. We cannot afford to do that at this time. The production program must be carefully adjusted to our supply of materials in order to keep the proper balance between military, foreign and domestic needs. The requirement that critically scarce materials be taken from the production of essential munitions to the production of non-essential civilian goods would hold great danger of impeding the war effort.

Moreover the Bill, by requiring that production of all additional synthetic rubber be from agricultural products as the basic raw materials, would freeze decisions involving complicated technical factors when progress of the art may later be shown to be only in its initial stages. I doubt the wisdom of that course of action.

Farish Predicts Civilian Synthetic Rubber

Appearing before a House of Representatives subcommittee investigating the manufacture of synthetic rubber, W. S. Farish, president of the Standard Oil Co. of New Jersey, stated that "in three or four months we will be placing tires on cars for civilian use." Mr. Farish said he could not speak for the tire industry or for the federal government but that he believed sufficient synthetic rubber would be available for production of civilian tires in the period of time mentioned. He pointed out that while this was good news, it should not warrant undue optimism on the part of American motorists. He cautioned that motorists should conserve rubber, reduce speeds to save wear on tires, and unnecessary driving should be eliminated.

He drew attention to the fact that the petroleum industry has developed two new methods of producing synthetic rubber which may provide by the end of next year, 34,000,000 more automobile tires than had been expected.

WPB to Eliminate All Excess Forms

A close check on the issuance of new War Production Board forms requesting information from American industry, will be provided by a new committee announced July 3 by Donald M. Nelson, War Production Board chairman. The committee will also review all previously issued WPB forms and will recommend abolition or consolidation of the forms wherever possible. Under the chairmanship of Joseph I. Lubin, the committee will have full authority to refuse approval of new forms or to discontinue the use of existing forms. It will be known as the committee for the review of data requests from industry. Wherever a form is found to be unnecessary, its use will be stopped. However, all forms now in use will continue in effect until October 1 unless specified notice is given to the contrary. The committee in addition to Mr. Lubin, chairman, who is a member of the firm of Eisner and Lubin, certified public accountants, New York City, will be composed of representatives of the War Department, Navy Department, Materials Division, Statistics Division, Bureau of Industry Branches and Bureau of Priorities, WPB, and Bureau of the Budget.

William P. Andrews Leaves Douglas O & R

William P. Andrews has resigned as vice president of the Douglas Oil & Refining Co. to devote all of his time to the Comet Oil Co., Ltd., a 500-bbl. cracking plant operating company which he organized several years ago, and of which he is still president.

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Whether you operate one truck or a fleet, you ought to get the facts today about the White *Cooperative Plan of Truck Conservation*. A booklet describing the Plan in detail is available upon request.

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PREVENTIVE MAINTENANCE prevents excessive wear on parts; postpones major repairs and avoids the premature need for new replacement parts. It insures against excessive time out of service and thus increases a truck's productive capacity. It conserves gasoline by keeping the trucks operating at peak efficiency at all times. It prolongs tire life.

Preventive Maintenance is the "stitch in time" Service Plan which White originated 10 years ago and has constantly improved with the development of new shop equipment, special repair machines and time-saving methods. Our mechanics have had years of experience with Preventive Maintenance—it's not a wartime expedient with them.

MANY WHITE TRUCKS, with more than a million miles of service to their credit, have been protected by P. M. since its start. It stands to reason that when your truck receives proper lubrication, regular inspections, adjustments, and prompt minor repairs —before big, expensive troubles can develop—truck life is greatly extended and the rate of wear on vital parts containing critical war materials is greatly reduced.

Preventive Maintenance is available to owners of all makes of trucks.

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PARTS CONSERVATION is a new, exclusive White Service development especially designed to meet the present situation. It is made possible by the fact that modern White Service Stations are "miniature White factories"—with special machines that enable skilled White craftsmen to repair worn or broken parts that, in ordinary times, would be replaced by new parts. In order to conserve critical war materials—and protect owners "for the duration"—all repairable parts will be repaired.

When a new part is required, it may be obtained only in exchange for the old one it replaces.

This policy applies to virtually all replacement parts from spark plugs to rear axles. It has been adopted first-in-the-industry by White, voluntarily, to conserve war materials and to extend the length of time owners can be sure of getting needed truck parts. If the old part is repairable, it will be returned to the original owner at the cost of repair. If it is not repairable, a credit will be allowed, based on the scrap value of the old part, if it has value. All parts which are not repairable will be disposed of in accordance with the recommended plan of the Salvage Section of the War Production Board.

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Properties and Uses of
Acid Soluble Cement

By J. K. Kennelly*

The use of a cement readily soluble in acid yet possessing all the essential properties of regular oil well cement has opened up new possibilities in those oil fields where it is the practice under certain conditions to cement a solid liner or casing string through a productive zone;—the solid string to then be gun-perforated to admit the flow of oil and gas into the hole. Such a cement can also be used advantageously to cement casing through zones likely to be produced at a later date, to set temporary plugs, and for squeeze cementing.

Considerable work has been done in the laboratory of the International Cementers, Incorporated, towards developing such a type of cement. The ultimate goal was a cement which would be readily soluble in acid and at the same time would be comparable to a neat cement in all physical characteristics. Table 1 lists the characteristics that can be expected of the acid-soluble cement now being used in the California fields. It can be seen that while the strengths of acid-soluble cements are not a great as those of neat cements, they are of sufficient magnitude to warrant its use for any oil well purpose. Figure 2 graphically presents the percentage solubility of an acid-soluble cement as compared to the solubility of a neat cement in inhibited hydrochloric acid.

An additional characteristic of this type of cement is its decrease in shrinkage on setting. Shrinkage on setting may cause excessive cracking of the cement which weakens the bond between the cement and the wall of the hole to allow water to enter the hole. The shrinkage of acid-soluble cement as compared with neat cement is shown in Table 2. Laboratory tests also indicate acid-soluble cement to have a greater resistance to shattering and impact. This is a distinct advantage as the shattering of cement around the pipe by the action of the tools going in and out of the hole has been attributed by some engineers to be a frequent cause of water entry into the well.

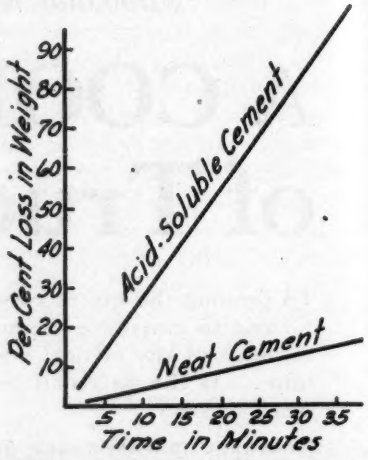


Fig. 2. Relative solubilities of acid-soluble cement vs. neat cement in hydrochloric acid

Chemical Engineer, International Cementers, Inc.

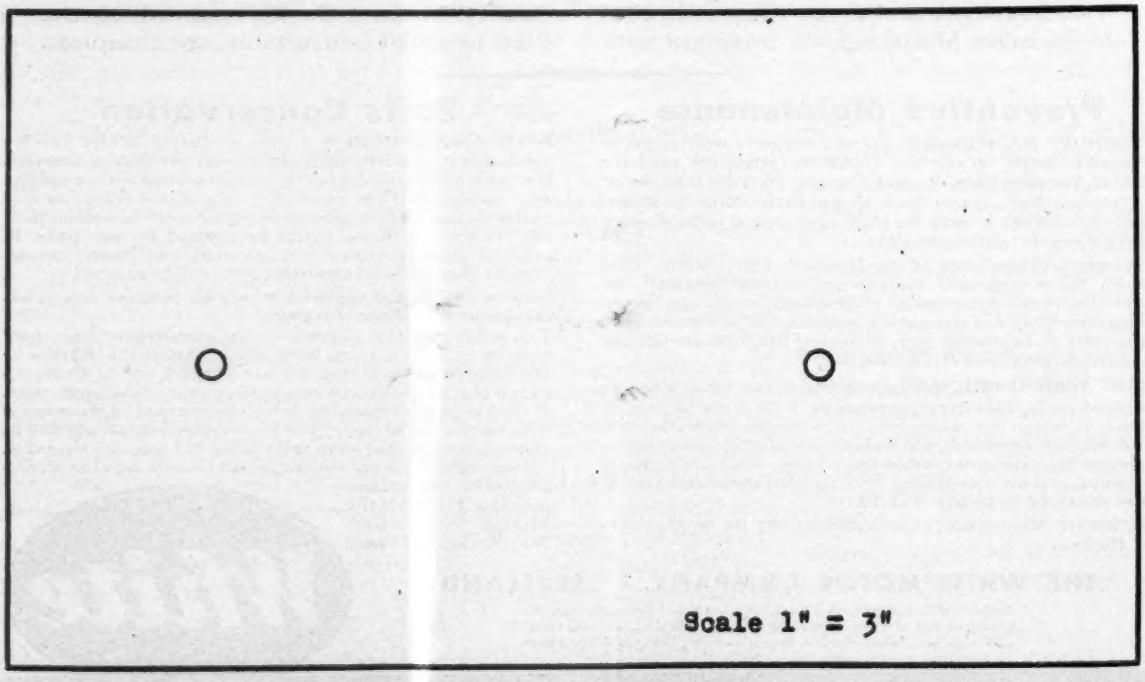


Figure 1. Actual drainage area afforded by two .45 caliber bullets per one foot of 6⅝-in. casing. Area ½-in. hole = .00135 sq. ft. Area casing = 1.733 sq. ft. Drainage area = $\frac{2 \times .00135}{1.733} \times 100 = .154$ per cent

TABLE I

Physical Characteristics

Time	Tensile strength, lb. per sq. in.	Compressive strength, lb. per sq. in.	Thickening Time (40-oz. pull)
Acid-soluble cement made with modified oil-well cement			
Slurry			130 min.
1 Day	393	2609	
3 Days	403	3228	
7 Days	602	4081	
Acid-soluble cement made with construction cement			
Slurry			86 min.
1 Day	318	2210	
3 Days	346	2778	
7 Days	375	3165	

TABLE 2

Shrinkage

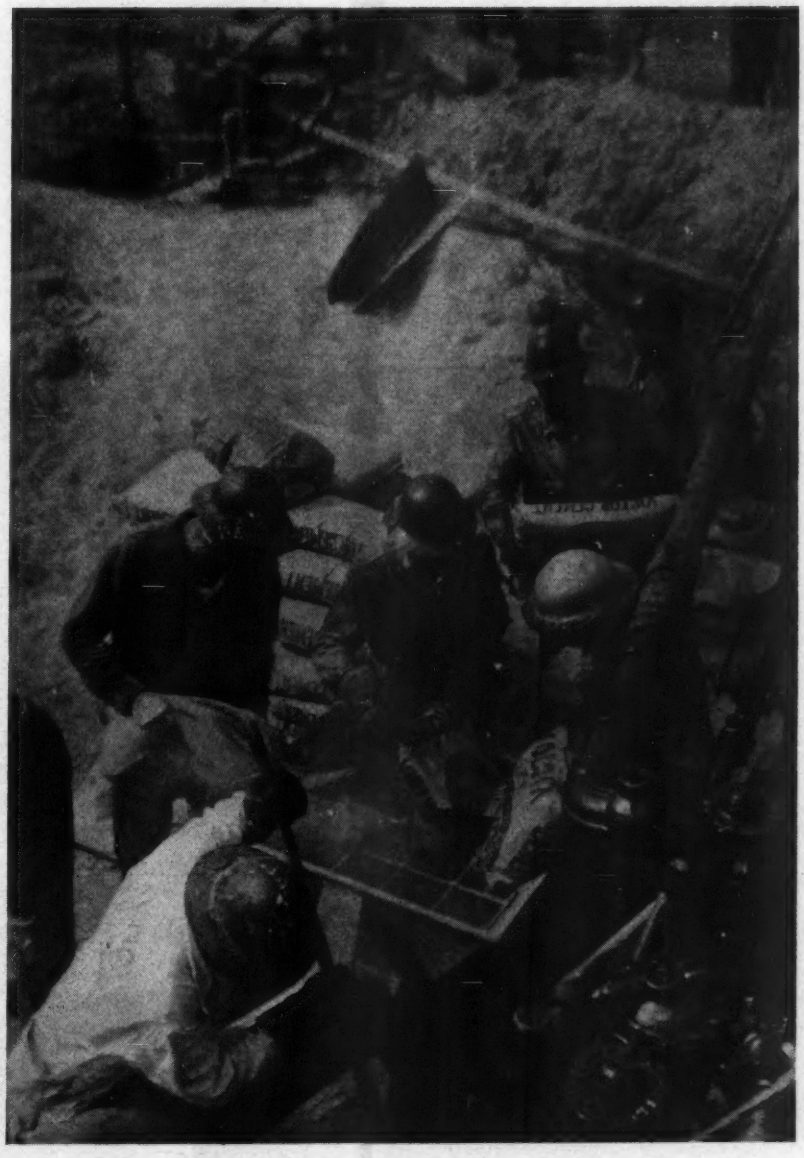
Contraction in percent of length of standard expansion bar. Acid-soluble cement made with oil-well cement.

Time	Acid-soluble cement	Neat cement
1 Day	0.007	0.009
3 Days	0.073	0.118
5 Days	0.137	0.198
7 Days	0.161	0.243
8 Days	0.170	0.258

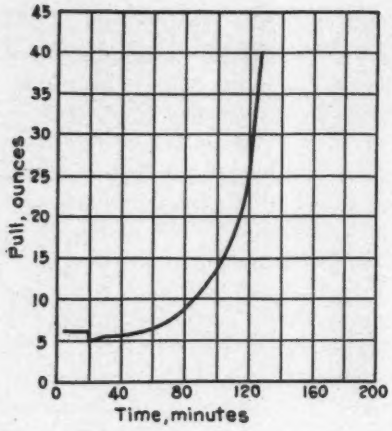
Acid-soluble cement is made by mixing proportionately equal parts of any type oil-well or Portland cement with a specially prepared limestone. This limestone differs from the limestone being used for conditioning mud fluid prior to acid treating for the removal of the mud sheath from the wall of the producing sand.

The high acid solubility of this type of cement is the result of the reaction of the acid on the limestone admix. Limestone is completely soluble in acid. Usually when acid reacts with regular neat cement, an insoluble silica gel is formed on the surface of the cement. This gel coating prevents the acid from attacking additional cement so that the reaction rate drops off rapidly while in the case of acid-soluble cement a high rate of reaction is maintained because of the complete solubility of the limestone. The characteristics of the limestone employed play an important part in reaction with acid as well as in the physical characteristics of the set cement itself so that it is essential to use a prepared limestone when using this type of cement in an oil well.

As when using any kind of cement, the amount of water may vary with the requirements of the job. On the jobs that have been done to date the slurries have averaged approximately 118-120 lbs. per cu. ft. and the thickening rate compares with that of a 40% neat slurry, as shown by Figure 3. To maintain an acid-soluble cement slurry which will be comparable in physical characteristics to that of a 40% neat slurry, it is necessary to have a higher water-cement ratio. The additional water being necessary to "wet" the surface of the limestone admix. That this additional water



Mixing of acid-soluble cement on the job.



has no deletereous effect is attested by the data in Table 1.

The limestone used has the same specific gravity as cement therefore no segregation of limestone and cement particles should be expected.

Permeabilities were determined by actual air flow measurements rather than by permeameter calibrations to insure greater accuracy. Acid-soluble cement permeabilities varied between .1 and .25 of a millidarcy.

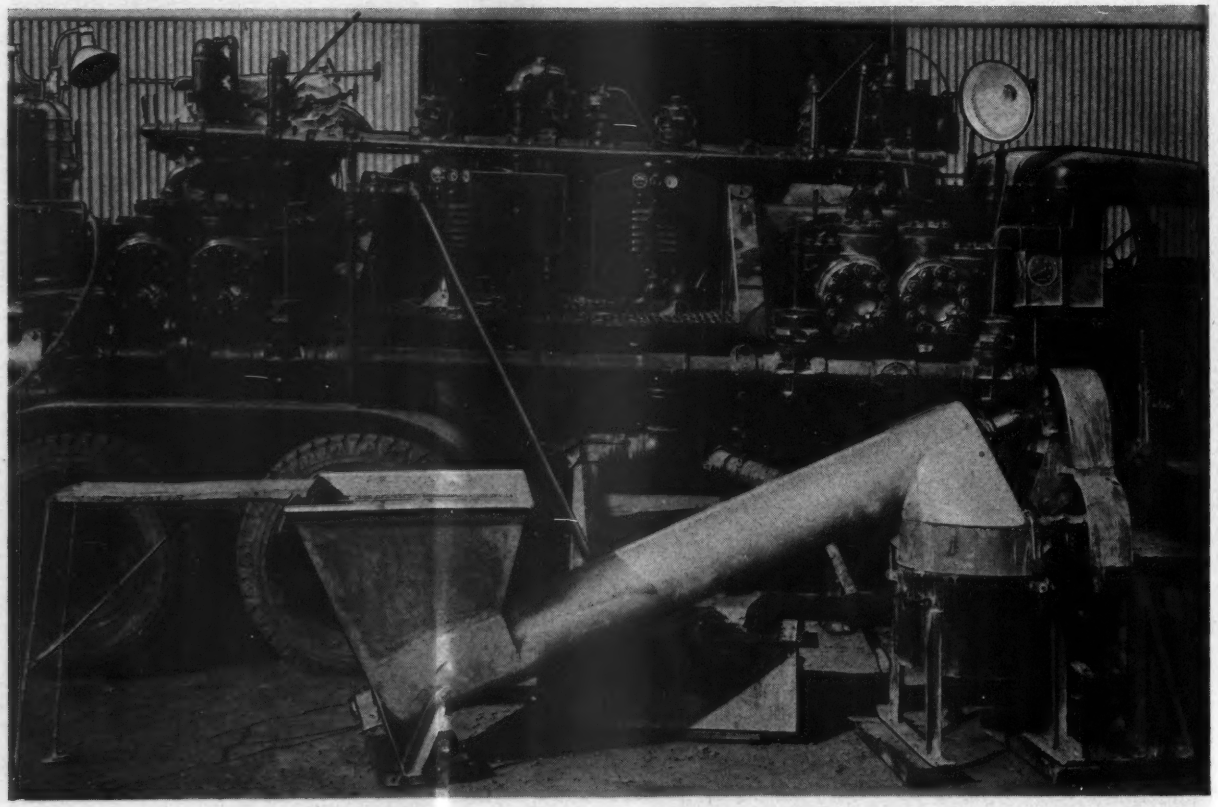
The resistance of acid-soluble cement to strong sulfate waters, sulfur waters, and natural brines equals that of neat cement.

The uses for such a cement in oil wells are many and varied. Generally speaking it can be used for any of the purposes for which regular neat cement is now used. The added advantage of its ready solubility in acid makes it more desirable for such purposes as:

1. Cementing casing to be gun perforated.
2. Cementing through perforations with weak zones below cementing point.
3. Squeeze cementing indiscriminately against oil and water sands.
4. Temporary plug in casing or hole.

While it is the concensus that the bullets shot from gun perforators do successfully pierce the pipe and the surrounding encasement of cement and thereby allow fluid to enter the hole, it has been felt that the fluid entry could be more efficient if a means were available for reaming or cleaning out the shot hole of mud, cement fragments, and etc. It is not uncommon for a gun to be withdrawn from the well after shooting with its bullet chambers full of mud, sand, and cement. This would suggest that the gases generated by the burning of the powder have an instantaneous expansion followed by an immediate contraction which exerts a suction effect on the formation exposed by the bullet hole. Acid-soluble cement affords an opportunity to clean these shot holes by acidizing. Figure 1 illustrates the necessity of maintaining clean and unobstructed holes to the formation. This scale diagram shows the actual drainage afforded by two .45 caliber bullet holes per foot of regular 6⅝" casing.

When using acid-soluble cement for this type of completion, it should not be assumed that the casing could if desired be loosened from the cement to allow for its removal from the hole. No great amount of "vertical dissolving" will take place as the amount of cement that can be



Cement hopper and pumps ready for a speedy job.

dissolved per unit volume of acid is fixed and is governed to a great extent by the area of contact between the acid and the cement. The smaller the area of contact, the lesser the amount of cement dissolved. In acidizing shot holes the area of contact between the acid and cement is small so that no great amount of cement will be dissolved before the acid in contact with the cement becomes spent.

If five pounds of cement were mixed and spread in a sheath ¼ inch thick, the entire sheath would probably be dissolved without any appreciable slowing down of the reaction, as the area is so large in contrast to the actual volume of the cement, while conversely if the five pounds of cement were mixed and poured into a small cube, the reaction rate would be materially slowed down by the smaller area of contact.

When cementing through perforations with weak zones below, the use of acid-soluble cement safeguards the possibilities of cementing off the zones. Ofter times the cement goes down over these zones due to lower formation pressures. When this happens, the cement can readily be removed by acidizing.

Indiscriminate squeezing of cement opposite oil and water sands to shut off the water zones offers another opportunity for the use of a cement which can be removed by acid.

Temporary plugs can be removed with acid thereby eliminating the rigging up of tools to drill out the plug.

The methods of acidizing will of course vary with the well at hand. The acid used for this type of work is inhibited hydrochloric acid with low surface tension properties.

It is often the practice to place the acid in the well prior to shooting so that as the pipe and cement are being penetrated, the acid follows the bullet and tends to forestall any plugging due to "sucked in" material. It also follows that on each successive firing of the gun, the rapid expansion of the gases cause an hydraulic pressure action on the holes already made. This hydraulic pressure drives acid out through the holes in much the same manner as the mechanical washer.

Sometimes wells are perforated several feet from the bottom of the well making it necessary to use some type of plug to support the acid in place while shooting. In those cases where the hole below the area to be perforated is solid casing, a chemical plug consisting of water to which sufficient calcium chloride has been added to bring the specific gravity of the water to 1.08. 15% acid has a specific gravity of 1.075. This type of chemical plug is generally known as "heavy water." The plug is placed in the bottom of the well and the acid then spotted above it to extend to the top of the area to be perforated. An excess of acid is usually used to compensate for loss of the sand while shooting. After shooting the holes are washed with a pressure washer to remove material loosened by the acid. The well is then placed on production.

In wells containing perforated sections below the zone to be perforated and acidized, a gel plug is placed in the bottom to fill up the entire perforated area so that the acid may be supported in place during the shooting. This gel plug solidifies soon after placement in the well and return to a liquid form after a pre-determined length of time, usually 36 hours, due to bacterial action of the material composing the plug.

In those cases where the well is first perforated and then acidized, the procedure is usually to spot the acid in place using a pressure washer for the necessary agitation.

Sometimes it is desired to have a portion of the cement behind the pipe acid-soluble and the remainder neat cement. This can readily be accomplished without interruption of the cement job.

The use of acid-soluble cement does not obligate the operator to use acid. The acid-soluble section can be perforated at any later date and subsequently acidized if so desired. It should be understood that time is no factor in determining when acid-soluble cement must be perforated and acidized. An important application of this type of cement is the cementing off of oil and gas sands to be perforated and produced at a future date as the demand requires.

This type of cement is available in California at a price comparable to a modified oil well cement. With its continued use there undoubtedly will develop new applications. The jobs done indicate a successful invention and one that will be of great beneft to the operator who is lookng ahead for new and better methods of well completions.

Oil Men Aid Community Chest

People in the oil business throughout the state have for years done their share to help meet human needs in their own cities and communities through the local Community Chest. As an American way of easing the bad breaks for those less fortunate and raising the level of community life for all, the Chest stands as a pretty solid and proved institution, adaptable to the needs of both war and peace.

Community Chest agencies in California cities, however, by virtue of their location in an official war zone, are finding war adaptations more severe and dramatic than in most parts of the country.

Today the agencies are ready for any eventuality, most of them having coordinated their functions with the civilian defense program for maximum community service. So vital to community well being and morale have been the services performed by the agencies in peacetime, most Californians realizing the indispensability of such services in wartime, would be in favor of starting up the agencies from scratch—if they did not already exist—merely to have them available for instant use in the current emergency. Volunteers are playing an important part in arming the agencies for expanded service in a possible crisis.

Chest officials report that there has been no relaxing of effort on the part of the agencies in their usual war on disease, dependency, delinquency and the varied personal problems of individuals needing help. Aware that individual morale in strategic war production centers must be kept as high as possible for an effective victory effort, the agencies are outdoing themselves to make their Chest dollars, shrunk by inflated prices, cover increased needs stemming from the state's expanded population.

1942 Natural Gasoline Plant Layouts

By Don E. McFaddin
Union Oil Co. of Calif.
*Presented Before CNGA Meeting
July 2, 1942
Rio Hondo Golf Club

Four primary factors to be kept foremost in mind when designing a layout for a natural gasoline plant are:

1. Safety
2. Economy
3. Efficiency
4. Future Expansion

General trends in new layouts during the past ten years reflect more consideration to these four primary factors, with the result that there are now a number of examples of good layout design available for study. More specifically it is found that distances between the respective units or groups of units of new plants have been increased in order to gain safety and efficiency and to provide for future expansion. Also there is a definite trend toward utilizing the natural terrane to best advantage. In fact, it is generally agreed that the first step in designing a year 1942 natural gasoline plant layout is to make an extensive study of the terrane, character of surrounding property, and prevailing winds pertaining to the proposed plant site. However, comprehensive technical formulas for converting the data of such a study into an optimum layout design are lacking. Therefore, in the final analysis, the decisions involved in designing a layout depend on experience, sound judgment and engineering ability.

It is the purpose of this paper to stimulate the use of this engineering ability by reviewing present trends and opinions. With this in mind, questionnaires have been circulated to obtain personal opinions on the following:

1. Optimum distance between respective unit and property lines.
2. Use of concrete trenches for lines versus burying them, elevating them, or laying them on top of the ground.
3. Master control panels and instrument boards versus individual instruments and control valves located at the respective units.

Distances

City and county ordinance now place limitations on minimum distances for plant layouts in most areas. These ordinances will not permit the building of congested plants in city areas such as have been built in certain localities in the past. A recent plant constructed on level terrane at Wilmington in the City of Los Angeles was designed to conform with the following:

1. Gasoline storage tanks and gasoline loading racks should be not less than 30 ft. from the property line.
2. Boilers, compressor plants, etc., should be not less than 20 ft. from such boundaries.
3. Compressor plants should be not less than 125 ft. from any drilling well.
4. Compressor plants should preferably be not less than 100 ft. from the distillation and absorption units and the gasoline storage tanks.
5. The boilers should preferably be on the windward side of the plant (with respect to prevailing winds) and not less than 100 feet from the distillation and absorption units and on the opposite side of the plant from the gasoline storage tanks.
6. The gasoline loading rack should be located at least 100 feet from any of the plant operating area.

The U. S. Department of Commerce published Bureau of Mines Technical Paper No. 462 entitled "Safety at Natural Gasoline Plants" by G. B. Shea. This publication gives primary consideration to hazardous vapors and the contour of the site in relation to the location of equipment. It is quoted as follows:

"The interest of safety and utility are best served in placing boilers, pumps, and compressors on one down flank of an elevated ridge; and absorber, distillation units and storage tanks on the other. Cooling towers should be preferably located on the crest of the hill. With this arrangement, all equipment is located so that no oil or gasoline can flow to the boilers."

This publication further states:

"Boilers should be set a far from

Figure I

Figure III

the plant as practical and on the side away from dangerous hazards. This distance should not be less than 100 ft. Gasoline vapors travel long distances and many disastrous fires have been caused at gasoline plants by wind-blown vapors reaching the fires under nearby boilers. Another feature to be considered in laying out a site is to orient the plant with reference to the prevailing winds so that they will blow from the direction of the boilers toward the plant. This will prevent vapors that may escape accidentally or otherwise from drifting toward the ignition source. Fire stills should receive the same consideration that is given boilers. Placing fire stills near boilers is a safety precaution as well as a convenience."

Technical Paper 462 also gives a picture to illustrate a plant built on a ridge. However, this picture shows the boiler plant located down hill from various cooling tower and other absorption plant units. This is contrary to the implications in the Government publication. Therefore, it should be emphasized again that boilers and compressor plants should not be located at low spots with reference to the rest of the plant. The boiler and compressor plants are better located near the crest of the ridge. It is desirable, from the standpoint of operating efficiency, that the cooling tower also be located on a crest. Consequently, our ideal plant would have the boiler plant, compressor plant, and cooling tower all on the same ridge with safe distance between or, better still, the cooling tower and plant on one ridge and the boiler plant on another with a small ravine between. Quoting further from Technical Paper 462, "In addition to the arrangement of the plant proper, the location of the office, warehouse, and laboratory must be given consideration. These buildings should be placed reasonably close to the plant but outside the danger zone and on the side opposite the plant storage. Likewise, they should be so located that it would not be necessary to drive or walk through the plant yard to reach them because of the danger inherent in the exhaust of cars and trucks and especially of smoking."

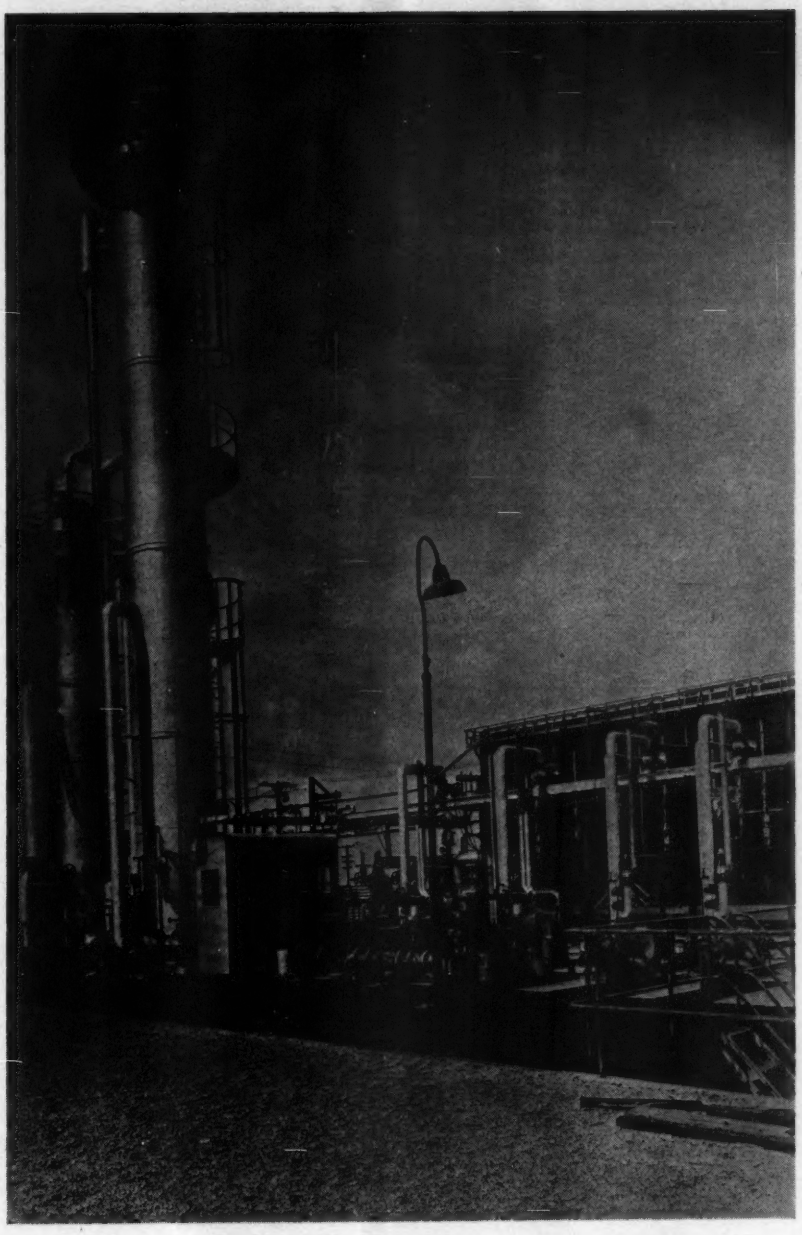


Figure II

Table I summarizes the optimum distance between various units as indicated by the questionnaire data.

It is apparent, from Table I, that there are wide differences of opinion on the preferable distances between the various units of a plant. This may indicate the futility of attempting to set fixed distances for layouts that would be acceptable to all. It may also indicate that the preferable distances are largely dependent on the various factors peculiar to each individual plant.

Installation of Lines

It was the tendency some ten years or more ago to bury all but steam and hot vapor lines. After much costly experience with corrosion and complications involving dead an dforgotten lines and connections, the trend is no wtoward exposed lines.

It is apparent, from Table II, that opinion favors elevating most steam, oil and gasoline lines overhead, while

TABLE I
PREFERABLE DISTANCES BETWEEN VARIOUS UNITS OF A NATURAL GASOLINE ABSORPTION PLANT
Summary of Quesionnaire Data

FROM	TO (DISTANCES IN FEET)					
	Street Highway or Property Line	Gasoline Storage	Gasoline Rundown	Cooling Tower	Stills	Absorbers
(1) Boilers and Direct Fired Heaters						
Shortest distance reported	25	150	175	25	75	150
Longest distance reported	125	450	200	350	200	250
Average of distances reported	65	310	190	155	145	195
(2) Gas Engines for Pumps and Compressors						
Shortest distance reported	20	50	75	20	25	25
Longest distance reported	75	400	150	200	150	150
Average of distances reported	49	235	110	63	75	75
(3) Street, Highway or Property Line						
Shortest distance reported		50	75	50	50	50
Longest distance reported		150	150	100	150	150
Average of distances reported		140	120	85	115	105

NOTES: (1) Instructions were given to take roughly into consideration first cost, convenience of operation and safety.
(2) Level terrane is assumed.

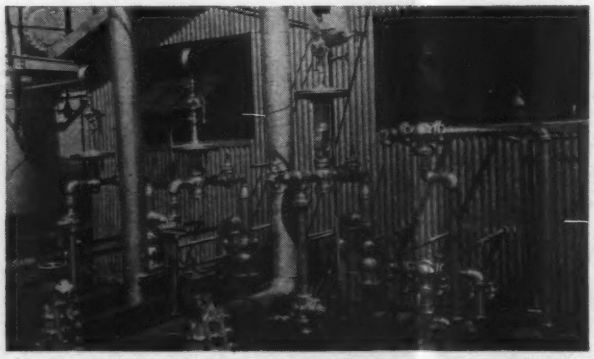
placing gas lines on the top of the ground is prefered. The use of the concrete trench does not appear to be extensively favored. As to be expected, opinion favors burying only drainage and water lines.

Suction piping for centrifugal pumps is an item that has not received proper consideration in the past and numerous turns and dips have been a source of grief. By giving proper thought to the layout, the length of suction piping can be kept short and relatively free of sharp turns. In certain cases, such as the pumping of hot oil or gasoline, the fluid source, such as the still or stabilizer, may be advantageously elevated on a skirt. It may be desirable to keep the suction piping overhead and utilize overhead suction pumps. This design has found wide application in refinery layouts.

Where lines are on top of the ground, steps and ramps must be provided for ready accessibility, as shown in Figure I. Concrete trenches with subway gratings provide a maximum of accessibility and convenience as shown by Figure II. The additional first cost of the concrete trenches and subway grating can often be justified for certain areas of the plant but usually not for an entire absorption plant in the field. Trenches and gratings are found more often in refineries than in field absorption plants because refineries are usually more crowded and must utilize the area over the lines for walkways and operating areas. Also the trenches are utilized for draining off leakage of heavy oil. Trenches and grating give a plant a finished appearance and if properly designed, with fire walls and drains, can be flushed with water and be made to contribute to the cleanliness and safety of the plant. However, unless they are properly designed, with ample vapor and liquid drainage and free from pockets, they may tend to accumulate explosive mixtures.

Some new absorption plants have followed the trend in refineries of providing a control house with a master control panel. Figure III shows a front view of such a control panel with meters and hand operated control valves. However, Table III indicates that the master control panel in a centrally located control house has not found general acceptance in natural gasoline absorption plants. The questionnaire further indicated the average opinion that some 37% of the natural gasoline absorption plant instruments are preferably located individually throughout the plant, and 37% are indicated for open type panels. This leaves 26% for the master control panel.

In the present military emergency, a control house, from which the entire operation of the plant is apparent and can be largely controlled, is of definite value. It can be protected with sand bags or adobe bricks and used as a bomb shelter from which the plant can be operated during a blackout or actual raid. However, the control house requires considerable complication in the piping for main process streams as well as for the instruments in the control house and its first cost is very definitely greater than for instruments located throughout the plant adjacent to their respective units. Figure IV indicates the additional complexity of lines required for a central master control



Above: Figure IV. At Right, Figure V.

TABLE II
PREFERABLE LOCATION OF LINES IN NATURAL GASOLINE ABSORPTION PLANTS
Summary of Quesionnaire Data

LOCATION	SERVICE					
	Drainage Pct.	Water Pct.	Oil Pct.	Gasoline Pct.	Gas Pct.	Steam Pct.
(1) **Buried**						
Lowest value reported	90	30	0	0	0	0
Highest value reported	100	100	70	10	50	0
Average of values reported	98	78	18	4	23	0
(2) **In Concrete Trenches**						
Lowest value reported	0	0	0	0	0	0
Highest value reported	0	20	75	50	25	0
Average of values reported	0	4	35	28	21	15
(3) **On Top of Ground**						
Lowest value reported	0	0	0	0	0	0
Highest value reported	0	30	30	25	90	10
Average of values reported	0	6	6	10	36	2
(4) **Elevated Overhead**						
Lowest value reported	0	0	25	25	0	90
Highest value reported	10	40	90	90	75	100
Average of values reported	2	12	41	56	20	83

NOTE: (1) Instructions were given to express preferences as percentages in each of the four classes of locations.
(2) Values in this table are per cent.

TABLE III
CONTROL PANELS IN NATURAL GASOLINE ABSORPTION PLANTS
Summary of Questionnaire Data

	Minimum Pct. Reported	Maximum Pct. Reported	Average of All Pct. Values Reported
(1) A Master Control Panel in a Single Control House that can be steam heated, given full protection against the weather and can be blacked out	0	75	26
(2) Several open type panels strategically located in the plant	0	90	37
(3) Individual instruments conveniently located along walkways	10	100	37

NOTE: Values express preferences for percentage distribution between the three classes of meter installations. For example, one report indicated that 10% of all the plant instruments should be located individually along walkways, while another report indicated that 100% or all should be individually so located, and the average of all reports gave a percentage of 37 located individually.

panel. However, it is surprising to find that for the cases studied, the plant total first cost for a central control house with a master control panel amounts only to between one and two per cent more than if the instruments and control valves are spread throughout the plant.

Figure II, in addition to the neatness and accessibility obtained with concrete trenches for piping, also shows a well designed open type master control and instrument panel serving several units of the plant.

One plan that has found favorable acceptance for some plants is to provide a small house without instruments, centrally located in the plant operating area, as shown by Figure V. From this house, the operator can observe gauge glasses, pump operations, pressure gauges, etc. It can also be given bomb shelter protection. With this plan the operator is required to make occasional tours over the plant to adjust rates, temperatures, and pressures. However, in the case of an actual air raid, the plant would probably continue to operate satisfactorily for several hours without adjustments, if not damaged.

The control house may be effective in reducing operating labor. However, there is the belief that this is false economy since it is desirable to have the absorption plant operator continually observing conditions throughout the entire plant. In order to explain the difference of the control house problem of the natural gasoline plant from that of a typical refinery plant, it should be remembered that space is usually more valuable in refineries, and refinery plants are usually considerably more compact. Also, personnel is organized on a different basis for refinery plant operations. The refinery plant operator is often expected to devote his entire attention to the control panel; while refinery shift foremen make routine inspections of the plant and a utility department has the responsibility of maintaining meters and instruments, also mechanics are usually available in case of mechanical trouble. However, the field absorption plant operator often has the full responsibility of the entire plant and consequently should not spend his time at any one place.

Considerable progress has been made in plant layout during the past ten years and the 1942 absorption plant should excel the plant of ten years ago in safety and convenience of operation, economy of first cost and maintenance, and efficiency in the use of heat as well as the recovery of products. Undoubtedly the natural gasoline plant of 1952 (ten years hence) will be even better.

R. T. Collier New Marketing Director

Upon the promotion of Dr. John W. Frey to special assistant to Deputy Petroleum Coordinator Davies, Robert T. Collier was appointed Director of Marketing. This announcement was made recently by Petroleum Coordinator Ickes. Mr. Collier is well known in this area as he was connected with the western oil industry for many years and was most recently a vice-president of the Great Lakes Carbon Corp., Wilmington, Calif.

O'Mahoney Urges Step-Up in Oil Output

Senator O'Mahoney of Wyoming is urging for a step-up in oil production, stressing the war importance of long-range plain operations. He considers essential to winning the war a big stimulation to the drilling of new oil wells, particularly in the public domain. He said the type of mass air-raid carried out recently by the R.A.F. consumed about a million gallons of high octane aviation gasoline, requiring 200,000 barrels of crude oil for its manufacture.

Tired of hearing salvage volunteers complain that transportation was bottlenecking their efforts, two Goldsboro, N. C. women borrowed a neighbor's truck and collected more than two tons of scrap metal in a single day.

THIS LAUGH

OFF!!

Pete Gardette embellishes the moment with:

For three days he had leaned over the fence, watching the demolition squad at work on the ruins caused by an air raid.

Bowler hat on the back of his head, an old clay pipe stuck in one corner of his mouth, he just stood and stared without a word. Finally, towards the end of the third day, the foreman's nerves broke under this silent scrutiny. He went to the solitary spectator.

"Listen," he said. "Haven't you got anything better to do than watch other people work? Or maybe you're interested in this particular property, eh?"

The man removed his pipe from his mouth.

"Well, in a sort of way, chum," he said. "I used to live 'ere."

"Lumme!" exclaimed the foreman. Then he turned to his gang. "Pack up, boys," he shouted. "Here's the bloke we've been digging for."

Where could **Dave Gribben** have heard this one:

"Mummy, didn't you say that baby had your eyes and daddy's nose?"

"Yes, darling."

"Well, you'd better watch him. He's got grandpa's teeth now."

Al Wichlund picked this one up somewhere:

A distinguished visitor to a lunatic asylum went to the telephone and found difficulty in getting his connection. Exasperated, he shouted to the exchange: "Look here, girl, do you know who I am?"

"No," came back the calm reply, "but I know where you are."

Contribution of **Dud Hughes** to this festive page is:

A storekeeper had his stock insured against fire and the same day his shop and all his merchandise were burnt up in the fire. This all seemed a bit unusual and the president of the company, to relieve his mind, wrote the storekeeper the following letter:

"Dear Sir: You took out an insurance policy at 11 a. m. and your store did not catch fire until 4:30 p. m. Will you kindly explain the delay?"

Jim Russell is rumored to have told this one:

"Plaintiff: I want to change my name, Your Honor.

Judge: What is your name?

Plaintiff: Joe Stinks.

Judge: I don't blame you. What do you wish to change it to?

Plaintiff: Charlie.

Not to be outdone comes **Jack Hall** with this one:

The husband answering the phone said, "I don't know; call the weather bureau," and hung up.

"What was that?" asked the wife.

"Some fellow asked whether the coast is clear."

Ernie Adams came up with this one:

The great psychiatrist was examining the precocious youth. "What would happen if I cut off your left ear?" he suddenly asked.

"I couldn't hear," the boy replied quickly.

"Then what would happen if I cut off your right ear?"

"I couldn't see!" came back the answer.

The great psychiatrist stared, then turned to the mother. "This is a serious case!" He swung back at the boy. "Why do you say you couldn't see if I cut off your right ear?"

"Cuz my hat would slide down over my ears!" snapped the kid.

Glenn Merkley recalled this one:

"What is it that you cook on, sit in and eat?"

"I give up."

"Why, a stove, chair and food!"

Names used on this page are entirely fictitious, and any resemblance to persons either living or dead is purely coincidental.

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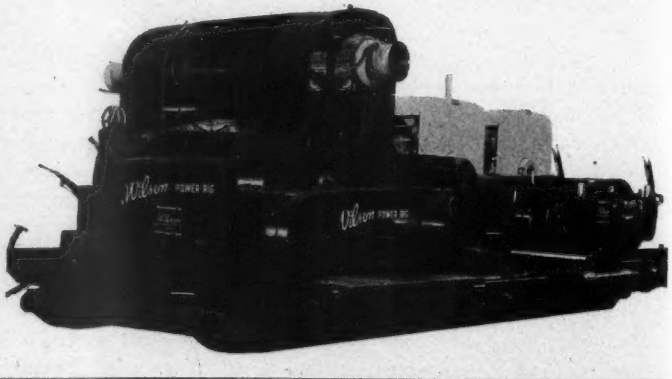

Field Development

Los Angeles Basin

Castaic Wildcats Progress Slackens

With Roy W. Young, Inc., fishing drill pipe at 9981 feet on its Walker No. 1, in section 11,4-16; The Texas Co.'s Towle No. 1, in 3,4-17, standing cemented at 1049 feet, and Mangold & Morse Oil Co., Inc. McDermott No. 1 idle at 4316 feet, activity among the Castaic area wildcatters is currently of little interest.

In the La Mirada area The Texas Co.'s McNally No. A-2 was plugged back from 8770 feet and whipstocked from 8738 feet. The bit dropped back in the old hole and went to 8942 feet, the top of the fish, and formation tester is now being run in the interval 8679 feet to 8942 feet.

Airline Oil Co. Gets Oil Shows

Drilling its Perkins No. 1, section 11,3-16, at 4364 feet in Newhall wildcat area, Airline Oil Co. is in siltstone after passing streaks of oil sand. Dips were 15°, and top of the Miocene was found at approximately 4000 feet.

Texaco Abandons Buena Park Try

The Texas Co. abandoned its Buena Park One No. 1, section 6,4-10, after reaching a total depth of 9042 feet. The 7-inch was gun perforated from 8260 feet to 8280 feet, and formation tester was held open for 5 hours and 57 minutes. A weak to good blow was recorded in 42 minutes, diminshing to weak blow with few heads in next three and a half hours. Moving up the hole another test of the interval 8035 feet to 8050 feet got a strong blow which gradually faded completely. The 7-inch was pulled from 1237 feet, and the well plugged and abandoned.

Conoco Redrills In Turnbull Canyon

Continental Oil Co. is redrilling its Turnbull Community No. 3 from 3588 feet and is down to 5608 feet. A formation tester open 36 minutes in the interval 3500 feet to 3548 feet recovered a fair amount of gassy oil. The test is in section 13,2-10. In section 24,2-11, Melvin Hansen's Dragna No. 1 is waiting for a heavier rig.

Huntington Beach Activity Continues

Southwest Exploration Co. completed its State No. 53, in Huntington Beach field, for a production of 213 barrels daily of 25.1° gravity cutting 0.1 per cent. Total depth was 5620 feet. William B. Comozzi is cleaning out Miller No. 2 at 4368 ft. In the same field George Duty has rig up for his Well No. 1, and John Marion has staked location for

LOS ANGELES BASIN WILDCATS

Area	Well	No.	Section	Depth	Status
Castaic	Mangold & Morse, McDermott	1	26, 5-17	4315	Idle
	The Texas Co., Towle	1	3, 4-17	1049	Drilling
	Young, Roy W., Inc., Walker	1	11, 5-16	9981	Fishing
La Mirada	The Texas Co., McNally	A-2	15, 3-11	9658	Drilling
Newhall	Airline Oil Co., Perkins	1	11, 3-16	4364	Coring
Palos Verdes	Surety Holding Co.	1	22, 5-14	1480	Idle
Puente Hills	Continental Oil Co., Turnbull	3	13, 2-11	3588	Redrilling
	Lytle, Robt. S., Opr., Corehole	B	15, 2-11	1603	Abandoned
	Wernsing & Lester, Dragna	1	24, 2-10	2230	Idle
Rio Hondo	Potrero Oil Co., Newman	1	32, 1-11	5430	Idle
San Fernando	Barnsdall Oil Co., T.I.T.	1	30, 3-15	7702	Drilling
	Fernando Oils, Ltd., Chatsworth	1	18, 2-16		Rig
	Tide Water Assoc., Sesnon	1	28, 3-16	8912	Completed
Whittier-La Habra	Los Nietos Valley Oil Co., Woodward	1	29, 2-11	995	Drilling
	Orange County				
Anaheim	The Texas Co., Buena Park	1	6, 4-10	9042	Abandoned
	The Texas Co., Buena Park	4E-1	36, 3-11	10,044	Gun Perf.
Bolsa Chica	La Bolsa Ro. Synd., Crane	1	22, 5-11	7310	Idle
Kraemer	Hamilton & Sherman, Kramer	3-2	31, 3-9	2468	Drilling
Costa Mesa	Thompson, Milton N., Banning	1	9, 6-10	5649	Idle
Yorba Linda	Shell Oil Co., Orlinda Fee No. 4		26-15 15, 3s-9w		Foundation
	San Bernardino County				
Carbon Canyon	Stella, E. F., McDermott	2	5, 3-8		Prep. to spud
	Union Oil Co., Newman Bros.	1	2, 3-8	532	Drilling

his Fee No. 2. Signal Oil & Gas Co. cemented 8⅝-inch casing at 4025 feet in its Signal Bolsa No. 34-A. Standard Oil Co., in its Huntington A-37, is coring at 2970 feet after a test of the interval 2500 feet to 2550 feet recoverd 345 feet of mud with trace of oil. The company has poured foundation for its No. A-37. Tronyln Oil Co. has rig up for its Surf No. 1.

Wilmington Activity At High Level

Activity in Wilmington oil field continues at a great pace with ten new locations listed. These were Atlantic Oil Co. Water & Power No. 28; Long Beach Oil Development Co. "W" No. 35 and No. 42; Petromont Oil Co. Wilmington No. 5; Union Pacific Railroad Co. L. B. Nos. 199, 200, 219, E-41 and E-42. A.D. Fuller Operator, completed his well No. 3, at 3702 feet for 92 barrels daily of 15.4° gravity oil cutting 18 percent. Macson Oil Co. completed its Well No. C-55-1 at 3643 feet for a production of 125 barrels daily of 13.5° gravity oil cutting 15 percent. Union Pacific's LB No. 218, down 2580 feet, was acidized after failure to flow and produced at a 110-barrel daily rate after being placed on the pump. Wilmington Oil & Development Co. is trying to locate water in its Well No. 2. Last production was 63 barrels daily cutting 48 percent. Depth is 5703 feet.

Union Completes Callender No. 85

Union Oil Co. completed its Callender No. 85, Dominguez, at a depth of 7372 feet for a production of 455 barrels of oil daily cutting 8.2 per cent. Gas was estimated at 627,000 cubic feet. Shell Oil Co., Inc. Reyes No. 129, down to 7910 feet, was testing water shutoff after cementing 7-inch casing at 7265 feet. Dominguez Associates Clark No. 1 was idle at 7233 feet.

Two Strings In Carbon Canyon

In the Carbon Canyon area of San Bernardino County Union Oil Co. is in gray sand and shale in its wildcat Newman Brothers No. 1 in the northeast quarter of sec. 2,3s-8w. The well was last reported drilling at 2967 ft. after cementing 12¾ in. surface casing at 310 ft. On sec. 5,3s-8w E. F. Stella is repairing equipment on its McDermont No. 2 near the north quarter corner of the section. Only 65 ft. of hole has been made.

Three Drilling In Del Valle

In the Del Valle area work progresses with three strings of tools in use. On sec. 16,4n-17w, in the original area which he discovered, R. E. Havenstrite, Operator, is drilling at 6622 ft. after topping the oil sand at 6548 ft. in his Barnes No. 2. A formation test from 5825 to 5874 ft. noted a strong gas blow

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and recovered some oil in the drilling mud.

In the westerly, or newer section of the field, Ohio Oil Co.'s Vasquez No. 3 in sec. 17,4n-17w made a formation test in the interval 5933 ft. to 6017 ft. Open 19 minutes recovery was 70 ft. of oily mud, 850 ft. of oil and 70 ft. of mud.

To the north in the same section Standard Oil Co.'s offset, Sepulveda No. 3 is coring at 5062 ft. In a test of the interval 4978 ft. to 5062 ft. gas reached the surface in two minutes, mud in 16 minutes, and oil in 17 minutes. Flow was estimated at 3800 MCF with some 33.1° gravity oil. The company is grading for No. 4.

Hellman Resumes Seal Beach Well

Hellman Estate Co.'s attempt to extend production at the southeast edge of the Seal Beach field failed when the Selover and Wasem zones tested wet at total depth of 5717 ft. The well, No. 15, has been cleaned out to 3500 ft. and plugged with 80 sacks of cement preparatory to setting whipstock. Earlier attempts failed to get away from the old hole.

Newhall-Potrero Activity Continues

Activity in the Newhall-Potrero area continues with Barnsdall Oil Co. working two strings and The Texas Co. operating a third. At the southeast extension of the field Barnsdall has rig up to drill Rancho San Francisco No. 32 as an offset to the recently completed C. G. Willis Ferguson No. 1 near the center of sec. 36,4n-17w, while at the northwest tip of the field in sec. 16, 4n-17w the company is drilling at 6567 ft. in R.S.F. No. 29, which was suspended at 1241 ft. when order M-68 went into effect. Attempting further extension of the field, The Texas Co. is coring Newhall No. 1 at 6350 ft. in the southwest corner of sec. 22,4n-17w after running electric log to 6290 ft.

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LUNKENHEIMER VALVES

San Joaquin Valley

Grapevine Area Work Continues

Reserve Oil & Gas Co., with Bell & Loffland doing the digging is drilling Tejon No. 33-6 in sec. 33, 11n-19w. The well seeks better accumulations of sand bodies than were found in the original Grapevine Pool drilling.

To the north in the Commanche Point area, La Barat Syndicate is drilling at 1555 ft. in its Ham Johns No. 1 in sec. 5,11n-18w. After finding the top of the tar zone at 600 ft., the basalt was topped at 1483 ft. and cores from 1500 ft. to 1512 ft. recovered oil sand.

Helm & Riverdale Field Developing Continuing

Amerada Pet. Corp., discoverer of both the Helm and Riverdale production in Fresno county, is continuing development of the districts. Having just finished Weyant No. 37-27 in the Helm area for 219 bbls. of clean 33 gravity oil and 98,000 cu. ft. of gas through a 12/64 in. control bean from 8116 ft., the company is drilling Clover No. 75-34 at 7671 ft. in the southeast quarter of sec. 34,16s-17e.

In the Riverdale area the company recently finished Cemente No. 74-22 and Zanolini No. 38-23 from the 6840 ft. level flowing approximately 200 bbls. of clean 36 plus gravity oil through small orifices in controlled completion jobs. Headed for more of the excellent Temblor zone production are Brunn No. 58-15 in sec. 15,17s-19e drilling at 6844 ft., and Jensen No. 52-26 drilling at 6840 ft. in section 26 of the town-

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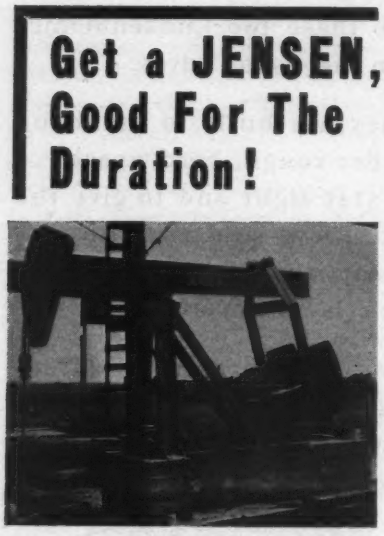

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SAN JOAQUIN VALLEY WILDCATS

Area	Well	No.	Section	Depth	Status
	Fresno County				
Burrel	Amerada Pet. Corp., Whitty	1	1, 17-17		Grade
	Amerada Pet Corp., Truman	4-6	6, 17-18	8295	Completed
Guijarral Hills	Lytle, Robt. S., Opr., Well	68-28F	28, 20-16	11,571	Drilling
Helm	Amerada Pet. Corp., Weyant	37-27	27, 16-17	8160	Completed
	Amerada Pet. Corp., Clover	75-34	34, 16-17	7671	Drilling
Jacalitos	Wilshire Annex Oil Co.	58-26E	26,21s-13e		Location
	The Texas Co., Ferguson	1	32, 21-16		Foundation
Mendota	Jergins Oil Co., Cheney Ranch	3	30, 14-13	7703	Abandoned
	Pure Oil Co., C.L.G.	1	22, 15-13	421	Drilling
Riverdale	Amerada Pet. Corp., Brunn	58-15	15, 17-19	6844	Drilling
	Amerada Pet. Corp., Clemente	74-22	22, 17-19	6840	Completed
	Amerada Pet. Corp., Zanolini	38-23	23, 17-19	6840	Completed
	Amerada Pet. Corp., Lawton	58-26	26, 17-19	11620	Sidetracking
	Kern County				
Comanche Point	L. E. Barat Synd., Ham Johns	1	5, 11-18	1555	Drilling
Devils Den	Moran, Robt. B., Opr., Beer	1	19, 26-19	1447	Reaming
Edison	M.T.M. Associates, Well	1	23, 30-30	956	Idle
Grapevine	Reserve Oil & Gas Co., Tejon	33-6	33, 11-19	477	Drilling
	Richfield Oil Corp., Tejon Ro.	3	7, 10-19	8400	Abandoned
Kern Front	Standard Oil Co., Well	42-9	9, 28-27	1490	Drilling
Kettleman-So.	Bristol Oil Corp., Hellman	1	2, 25-19	2184	Idle
McKittrick	Americal Pet. Inc., Americal	1	2, 30-21	5450	Drilling
McKittrick Front	Westates Pet. Corp., Kimball	3	32, 29-22	1121	Drilling
Midway-NW.	C.C.M.O. Co., Thomas	1	1, 31-21		Grade
	C.C.M.O. Co., Well	24-1	1, 32-22		Grade
Midway-SE.	The Texas Co., P.U.P.	2	33, 11-23		Rig
Mt. Poso	Delaney, Fred G., Well	1	12, 27-27		Location
	Recovery Oil Co., U.S.	1	34, 26-28	1398	Bailing
	Trico O. & G. Co., Glide	1	1, 27-27		Rigging up
	The Texas Co., Lambert Lds.	1	29, 26-28	2010	Abandoned
	Vedder, Dwight G., Glide	29-2	29, 27-28	2361	Abandoned
Paloma	Gen. Pet. Corp., Gallagher	61-33	33, 31-26	9231	Drilling
	West'n. Gulf Oil Co., L.A.C.	36-1	1, 32-26		Foundation
Shale Hills	Tideland Oil Co., Grant Est.	1	4, 27-28	4064	Idle
	Kings County				
Alpaugh	Elmer C. vonGlahn, Well	1	4, 23-22	4797	Drilling
Pyramid Hills	Miesse, Richard S., Jackie	1	22, 24-17	315	Idle
	Pac. O. & G. Dev., West Slope	2	20, 24-18		Location
	Tulare County				
Tulare	Richfield Oil Corp., Churchill	1	35, 20-24	4530	Drilling
Trico	Trico Oil & Gas Co., T.W.A. Fee	1	16, 24-23		Completed

ship. The company's deep test, Lawton No. 58-26, located in the southeast corner of section 26, sidetracked a drill pipe fish at 11,460 ft. after reaching 11,620 ft. in Cretaceous shale topped at 8150 ft. The hole is now in hard shale at 11,937 ft. The Eocene section was relatively thin at this point since the age was entered at 8000 ft.

Lytle Guijarral Well Getting Deep

Robert S. Lytle, Operator, who is heading a combination to test the saddle lying between Coalinga Eocene production and the Kettleman North Dome field of Fresno county, is drilling No. 68-28F at 11,571 ft. Located in the southeast corner of sec. 28,20s-16e, the well sought production in the Temblor and Vaqueros sections of the Miocene or the Avenal section of the Eocene, all of which zones are productive in the adjacent fields. Already deep in the geologic section the well found the top of the Eocene near 9400 ft. while the Temblor was passed at approximately 6700 ft. with none of the zones showing promise. Formation tests of oil stained Eocene sands at 9456 ft. recovered only fresh water with a trace of distillate. Now drilling in very old formation the operator has not recently placed the well in the Geologic column, but it must be assumed that the well is being carried to Cretaceous for an adequate test of the area.

Standard Oil Attempts Extension of Rio Vista

Standard Oil Co. is attempting to extend the limits of the Rio Vista proven area to the northeast with the drilling of Terschuron No. 1, located 1191 ft. north and 1320 ft. east of the southwest property corner in sec. 27,4n-3e.

The spudding of this well immediately followed the completion of the Texas Co.'s Huth Unit No. 2, in sec. 28,4n-3e, which was completed at a depth of 3886 ft. flowing an estimated 12,000,000 cu. ft. of gas through a 34/64 in. bean.

R. M. Cook Joins McCullough Tool Co.

R. M. (Bob) Cook, formerly vice president of International Cementers, Inc., has joined the McCullough Tool Co., where he will be in charge of sales. Bob Cook is widely known in oil field circles

R. M. Cook

throughout the United States for his activities have taken him into practically every active drilling and producing area for many years. He started in the oil tool business in the early days of the development of the Coalinga area, and was subsequently connected with Byron Jackson Co. and Pacific Cementing Co.

While Mr. Cook will make his headquarters at Los Angeles for the present, he will spend much of his time in the districts served by the 16 McCullough branch offices.

McCullough Tool Company manufacturers and operates electrically and mechanically fired gun perforators, oil well fishing tools and specialties.

Mount Poso Area "Cats" Active

Wildcatting in the Mount Poso area is continuing in a search for the desirable east Valley oil. On sec. 1,27s-28e, Alpha Oil Co. is fishing tools at 1520 ft after drilling in extremely hard formation. Fred G. Delaney is reported ready to start on sec. 12,27s-27e while Trico Oil & Gas Co. is rigging up to drill Glide No. 1-1 immediately northeast of the center of sec. 1,27s-27e.

in other words

by JOHN CLINTON

No soul is more lonely than that of a husband ousted from his home to prowl disconsolately about his yard and porch while a bridge-tea rages inside his house. He's even bereft of that cold bottle of coke in the ice box. Well, it served me right for going home from the office early!

* * *

Snatches of conversation drift out..."*Well, partner, we're down again*"..."*my dear, isn't that the dress she wore last summer?*"...and so forth. But when *this* phrase came sliding out the windows, I sat up suddenly: "*...well, one thing about the Minute Men, when you get your car back from being lubricated, it looks just darling...*"

* * *

Now, I would not put it quite *that* way, but whoever she was, she *had* something there! When you get Stop-Wear Lubrication from the Union Minute Men, you *can* see the difference in the way it looks—glass gleaming, interior and exterior dusted, tires and running boards smartly dressed. It's pretty swell.

* * *

You can *feel* the difference, too—in how it steers, shifts and handles. And you can *hear* the difference in the quiet way it runs, quiet as a mouse, and nary a squeak. No wonder Stop-Wear Lubrication is so popular.

* * *

Besides, you get a 1000-mile guarantee against faulty chassis lubrication with every job — a real comfort in these days when cars are becoming more precious than gold. Try Stop-Wear Lubrication at your favorite Union Oil station, today. It'll help you "Care For Your Car For Your Country."

Coastal District

Lloyd Corp. Seeks Ventura Extension

The Lloyd Corp. is continuing its attempt to extend deep-zone production easterly in the Ventura Avenue field, by drilling ahead on its Lloyd No. 1 to a depth of 10,322 ft. The well was first drilled by the corporation in 1938, when it was abandoned at the shallow depth of 7500 ft. After setting a whipstock at 9590 ft., the well cored oil sand at 9811 ft. and a formation test of the interval 9819-9831 ft., which was open 4 hours, recovered 46 stands of mud and water. A further test from 9819-10,022 ft., open 4 hours and 40 min., flowed to sump at an unestimated rate cutting 35%, with the fluid rising to the surface in 2 hours and 40 min. A third Johnston test from 9819 to 10,285 ft., open 6 hours and 20 min., with fluid to the surface in one hour and 35 min., flowed at a 1500-3000 barrel a day rate, cutting from 21-70%, 530-875 g.g.

Located southwest of this well is Tide Water Associated's V.L. & W. 50, which the company is preparing to complete. 725 feet of 6⅝-in. liner including 295 ft. of perforations was landed on bottom at 6792 ft., and cemented through perforations at 6480 ft. Earlier this year, Tide Water Associated completed its V. L. & W. 55 in the Class 4 zone at 10,750 ft. for 922 barrels a day of 31.7 gravity oil cutting 5.4%.

Shell Oil Co., Inc., has resumed drilling on its Taylor 146 after being shut down in January by order M-68 and is now bottomed at 3706 ft in sand and shale.

Continental Completes Piru Area Wildcat

Continental Oil Co. completed its Holser No. 1, located in sec. 14, 4n-18w on the Ramona anticline approximately 3½ miles southeast of the shallow Piru field. Drilled to a depth of 5228 ft. after production tests at 4344 ft. showed a swabbed recovery of 30 barrels a day rate of 32 gravity oil, the hole encountered steep dipping shale, with streaks of gray sand, but the absence of anything resembling oil sands. Consequently the hole was plugged back to 4663 ft., and 586 ft. of 4¾-in. liner was landed at 4662 ft., perforated at intervals from 4103 ft. to 4662 ft. With 2½-in. tubing including 2-in. hung at 4429 ft., the well was placed on pump for an initial production of 230 barrels a day of 27 gravity oil, with cuts varying from 1 to 90%.

Also located in the Piru Area is Pacific Western's Temescal No. 13, which is drilling in sand and shale at 399 ft., with 12¾-in. casing cemented at 253 ft. In this section 4, 4-18, Temescal No. 12 was completed at 3161 ft. for 260 barrels a day of 21.5 gravity oil cutting 3.0%.

COASTAL COUNTIES WILDCATS

Area	Well	No.	Section	Depth	Status
	Santa Barbara County				
Cat Canyon	Alphonzo E. Bell Corp., Gilmore	1	23, 9-33	6457	Sdd. up
	Standard Oil Co., Los Flores	5	33, 9-33		Rig
Lompoc	Alphonzo E. Bell Corp.. Lompoc	6	28, 8-34		Graded roads
	Fickert Oil Co., Ltd., Well	1	8, 7-33		Rig
Los Olivos	Tide Water Assoc O. Co., Davis	1	33, 8-31	4648	Drilling
Orcutt	Standard Oil Co., Rice Ranch	1	14, 9-34	8550	Drilling
	Ventura County				
Bardsdale	Hopland Oil Co., Well	1	1, 3-19	4634	Idle
	Santa Marino Oil Co., Elkins	1	7, 3-19		Grade
	Ventura Southern Oil Co.	G-1	19, 3-19	4793	Drilling
Conejo	Sycamore Oil Co., Boylan	1	23, 1-20	2703	Drilling
	L. A. Basin Oil Co., Well	1	4-1-20	1198	Drilling
Eureka Canyon	Phillips & Nichols, Well	2	33, 4-18	585	Drilling
Ojai	Coates, Spencer D., Pirie	5	7, 4-22	890	Drilling
	Kelalee Pet. Co., Harvey	1	8, 4-21		Rig
	Richfield Oil Corp., Ojai	44	13, 4-22	5111	Bailing
Piru	Continental Oil Co., Holser	1	14, 4-18	4663	Completed
	Delroy Pet. Corp., Fisk C. H.	1	22, 5-18	2650	Fishing
	Pacific Western Oil Co., Temescal	13	4, 4-18	399	Drilling
Red Mountain	Shell Oil Co., Inc., Wood	1	7, 3-23	5639	Drilling
Timber Canyon	Crude Oils., Inc., West	1	19, 4-20	958	Idle
	Denison, A. T., Denison	1	13, 4-21	1625	Testing
	Henderson-Ortez Oil Co., O'Leary	1	29, 4-20		Rig
Torrey Canyon	Union Oil Co., Torrey	60	5, 3-18		Location

NORTHERN COUNTIES WILDCATS

County	Well	No.	Section	Depth	Status
Colusa	Pacific National Pet. Corp.	1	17,17n-4w	1402	Idle
Madera	Blake, T. E., Chuck	1	28, 10s-17e		Rig
Merced	T.W.A.-Seaboard Oil Co.'s Turlock Land	37-18	18, 6s-11e	6355	Drilling
Monterey	Loma Grande Oil Co., Corey	1	23,24s-10e	4318	Standing
Sacramento	Standard Oil Co., Tersehuron	1	27, 4n-3e	3910	Testing
San Benito	The Texas Co., Henderson	1	33, 16s-12e		Foundation
	Union Oil Co., Friedman	1	13, 16s-11e		Grade
San Joaquin	Standard Oil Co., Blewett Com.	3	23, 3s-6e		Rig
San Joaquin	Standard Oil Co. Woods Comm.	1	23, 1n-5e	750	Drilling
Solano	Standard Oil Co., Suisun Com.	2-1	25, 3n-1w	7394	Testing
Stanislaus	Don Pedro Oil Co., Newman	1	9, 6s-9e	4074	Flowing water
Sutter	Buttes Oilfields Inc., Buttes	8	28, 16n-2e	5561	Idle
Yuba	Wright, L. G., Cox	1	18, 14n-5e	1805	Idle

Standard Completes Rio Vista Gasser

Standard Oil Co. McCormack-Shafer No. 1, located in sec. 16,3n-3e was completed at 4270 ft. flowing 15,689,000 cu. ft. of gas with ¾-in. casing bean, and pressures at 1646 lbs. and 1456 lbs. 262 ft. of 4-in. liner including 186 ft. of perforations was landed at 4269 ft. with 1½-in. and 2-in. tubing at 4240 ft. Drilling was contracted to the Brown Drilling Co., who struck the top of the White Sand at 4238 ft.

In sec. 19,3n-3e, Amerada Pet. Corp.'s C.E. Upham No. 1 bottomed in Green Sand at 4350, recovered only salt water on test from 4332 ft. to bottom, and is preparing to plug to test above.

Alphonzo E. Bell Active at Cat Canyon

Seeking production northwest of Cat Canyon similar to that obtained by the Standard and Union oil companies southeast of there, Alphonzo E. Bell Corp. has gun perforated Gilmore No. 1 in Sisquoc sand from 3808-3100 ft. On the pump July 21, the well initialed 125 barrels before sanding up. At present the operator is bailing oil and sand with bottom at 6457 ft.

This location in sec. 23,9n-33w, is at the north end of the old shallow field, where the Chert appears to contain oil, but it is difficult to obtain in any appreciable quantities. There has been no previous test of the sands below 4000 ft. in this sector.

In sec. 15,9n-33w the Pike Drilling Co. is rigging up to drill Standard Oil Co. outpost South Basin Lloyd-Comm. No. 1.

Shell Continues Test At Red Mountain

Started in an attempt to uncover new production northwest of Ventura Avenue, Wood No. 1 of the Shell Oil Co., located in sec. 7,3n-23w of the Red Mountain area, is drilling ahead at 5639 ft. with 9⅝ inch casing cemented at 933 ft. As a prospect hole, it is hoped that some check of the dips of the Ventura producing beds can be made, as well as ascertaining whether a deep-producing horizon is present.

T. W. A. Coring on Los Olivos Wild Cat

Tide Water Associated Oil Co. is at present coring ahead on its Santa Barbara county wildcat, Davis No. 1, located five miles north of Los Olivos in sec. 33,8-31. A formation test of the interval 4214-45 ft. open 40 minutes, recovered 170 ft. of mud, with no oil or gas. A test of a higher interval revealed some meagre oil showings in fractured silt around 4060 ft. The play in this district is expected to gain momentum when the Hub Oil Co. moves in equipment to start work on the Laguna Rancho in sec. 7,7-30 in the near future.

Shiells Canyon Sees New Operator

Activity in the Shiells Canyon field of Ventura County has once again been resumed with the appearance of two new locations under the name of the Security Exploration Co. The first, C. S. No. 2, is situated about six miles southeast of Fillmore in sec. 3,3-19, and is located 400 ft. north and 450 ft. east of the southwest corner of the section. Drilling has already begun, with the present depth at 50 ft. Location for C.S.N. No. 3 was staked 700 ft. south and 330 ft. east of the northwest corner of section 10,3-19.

Only remaining operator in the area is O.C. Field, whose Calumet No. 2 is at present idle, following a devastating fire.

Union Seeks Another Santa Maria Producer

Following completion of Union Sugar 14 in the far west end of the Santa Maria Valley field for 728 barrels a day of 18.2 gravity oil cutting 9.8%, the Union Oil Co. is hoping to come through with another producer in Union Sugar 15, located in the same section. The former was completed at a depth of 5152 ft., encountering the top of the Franciscan sands at 5107 ft. The current effort is now bottomed at 5240 ft. after hitting Franciscan deposits at 5227 ft. A 5½-in. liner, including 303 ft. of perforations was landed at 5238 ft. and is at present standing cemented through perforations at 4925 ft. with 600 sacks.

The company's Mathison No. 1, in sec. 14,10-35, is drilling ahead in brown shale at 5520 ft. This deposit was picked up at slightly lower depths than in other wells, and the extent of the future development of the Mathison lease will depend in part on the success of this westerly outpost well.

A new operator has appeared in the Santa Maria Valley bearing the name Pacific Central Oil Co. This company has staked location for its Defense No. 1, 850 ft. north and 1100 ft. west of the east quarter corner of sec. 20,10-34.

Tubbs Cordage Executive Serves W.P.B.

Herman D. Nichols, vice-president of Tubbs Cordage Company with headquarters in San Francisco, is on leave of absence for the duration to serve with the War Production Board.

Located in Washington, D. C., Nichols is the Hard Fiber Consultant and a Principal Industrial Specialist of the Bureau of Industrial Conservation. His work will be largely devoted to conservation methods for existing fiber supplies and the development of new fiber sources for war, industrial and civilian use.

The shortage of not only Manila fiber but also of Sisal and other types of hard fibers is one of the country's most serious problems, ranking in importance with metal and rubber shortages. Because of this, the War Production Board has recently issued new rulings further restricting the manufacture and sale of Sisal rope, which has been found the best available substitute for Manila cordage.

As a consequence of the fiber shortage, Nichols' work in Washington is closely tuned to the war effort in assuring ample cordage supplies for the armed forces, at the same time attempting to assure sufficient rope for industrial needs.

The 8,000 tons of steel which used to go into novelties and souvenirs would make 160,000 .50 calibre machine guns.

Fine Papers Feature CNGA

Three fine, short papers with particular appeal to natural gasoline plant operators will feature the August meeting of California Natural Gasoline Association to be held Thursday evening, August 6, 1942, at Rio Hondo Golf Club, 607 North Old River School Road, Downey, Calif. This is the joint announcement of W. W. Robinson, Jr., C.N.G.A. president, and Randal Maass, C.N.G.A. program chairman.

The first paper "The Application of Corrosive Resistant Alloys to Natural Gasoline Plants" will be presented by Byron B. Norton, Research & Development Department, International Nickel Co., who will come from New York to deliver it. This paper will be a very practical discussion of the types of alloys used for cooler and condenser tubes, boiler tubes and pump parts. It will include discussion of the manner and means for caring for these materials as well as answer such questions as "What steps can be taken to prevent dezincification of brasses?" "How can anodic zinc protection be improved or augmented?" and "What can be done to prevent seasonal 'cracking'?"

Ed Crellin, Socony Paint Products, will read a paper prepared by Paul L. Lotz, Research & Development Division, Socony Paint Products. In content, this paper will present the elements of a good paint for corrosion protection and the elements of a good paint to reduce evaporation losses. This paper will also consider the surface preparation and primer as well as the finishing coat to be applied for these two services.

"Paints in a Camouflage Program" is the title of a paper to be given by O. W. Johnson, Engineering Department, Standard Oil Co. of Calif., San Francisco. Mr. Johnson will discuss the significance and position of "infra-red reflective" paints. This topic is an extremely timely one, since the conception of these paints and their uses is to some extent erroneous as is evidenced by the manner in which these paints have been applied without regard for surrounding terrain.

Floor discussion will follow each paper.

Dinner will be served at 6:00 o'clock with barbequed spareribs, which were the feaure of the C.N.G.A. June Frolic, on the menu. Ample free parking is provided at the golf club and guards will be provided for all cars in the parking lot. It is pointed out that the area around Rio Hondo Golf Club is not subject to Dim-Out restrictions.

Bartholomae Rigs To Drill Deep Test

Bartholomae Oil Corp is building rig for Stern No. 12 as a deep test 660 ft. north and 1060 ft. east of the center of sec. 22,2s-10w in the East Coyote field. Pike Drilling Co. has the job. On the Anaheim Union Water Co. lands in the field Hathaway Co. is drilling in sand and shale at 4122 ft. in its No. 6 in sec. 18,3s-9w.

In West Coyote Standard has suspended on its Murphy Coyote No. 129 at 9295 ft., and is idle on the rigs for Nos. 130 and 131.

One large plant is converting into electrical energy the vast amounts of mechanical energy developed by airplane engines when they undergo break-in-runs. The engines are hooked to generators that supply electricity to the plant.

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FOR SALE

DEPARTMENT OF THE INTERIOR, U. S. Land Office, Sacramento, California.—Notice is hereby given that a lease of the oil and gas deposits in the following described lands is offered to the responsible qualified bidder of the highest bonus per acre, pursuant to the provisions of section 17 of the act of February 25, 1920 (41 Stat. 437), as amended, at the royalty rate scale in the lease form shown in General Land Office Circular 1386, at a sale to be held in the office of the Register of the District Land Office in Sacramento, California, at 10 o'clock A.M., on September 10, 1942, E½ SE¼ Sec. 2, T. 21 S., R. 14 E., M.D.M. California, containing 80 acres in the Coalinga West Side oil and gas field. The successful bidder must deposit on the date of the sale a certified check on a solvent bank, or cash, for 1/5 of the amount of each bid, and file a showing of qualifications to receive the lease required by section 7 of Circular 1386. The remaining 4/5, together with the annual rental in advance at the rate of $1 per acre, must be paid and a $5,000 corporate surety bond must be furnished prior to the issuance of the lease. The bidders are warned against violation of the provisions of section 59 of the U. S. Criminal Code, approved March 4, 1909, prohibiting unlawful combination or intimidation of bidders. The right is reserved to reject any and all bids at the discretion of the Secretary of the Interior. Register. 9/5b